DP-1014

Criticality Studies
(TID-4500)

CRITICAL AND SAFE MASSES AND DIMENSIONS OF LATTICES OF U AND UO_2 RODS IN WATER

by

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Parts of this work were presented at the Symposium on Criticality Control of Fissile Materials, sponsored by the International Atomic Energy Agency, at Stockholm, Sweden, November 1-5, 1965.

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February 1966

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CONTRACT AT(07-2)-1 WITH THE
UNITED STATES ATOMIC ENERGY COMMISSION

ABSTRACT

A survey is given of available critical and exponential data obtained with water-reflected lattices of slightly enriched uranium and uranium oxide rods. Calculations are made for these lattices by an asymptotic multigroup buckling code and by a two-group diffusion theory code employing parameters generated in the first code. Comparison between calculations and experiments is made in terms of a k_{eff}, which is the ratio of the calculated k to that calculated from the experimental dimensions and flux traverses and from the calculated migration areas and extrapolation distances. For some of the data, comparisons are also made between the present method of calculation and a more highly sophisticated method.

Reasonable care is taken in the present calculations to take account of all important effects; but since the experiments are used to normalize the calculations, absolute accuracy in the calculations is not necessary. A least squares treatment is given to k_{eff}, the parameter relating calculation and experiment, in order to obtain an average curve of k_{eff} as a function of the ratio of water to uranium. At low enrichments, k_{eff} is also allowed to vary with rod diameter and enrichment. Nearly all values of k_{eff} lie within ±0.01 of the average curves. Critical masses and dimensions are calculated with the buckling and two-group codes to correspond to values of k_{eff} lying on the average curves; and safe masses and dimensions are calculated to correspond to values of k_{eff} lying 0.02 below the average curves. Tables of minimum critical and maximum safe values are presented as a function of enrichment.

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CRITICAL AND SAFE MASSES AND DIMENSIONS OF LATTICES OF U AND UO_2 RODS IN WATER

INTRODUCTION

By maintaining sufficient limitations on only a few variables, safe operations with fissile materials can be ensured regardless of the values assumed by other variables. Although such limits may be inconveniently small, they are frequently useful because of their simplicity and because the maintenance of less restrictive limits imposed on a greater number of variables may be even more inconvenient. In handling fissile materials, control of the enrichment and form of the fuel is easily achieved. It is also easy to restrict actual or potential moderators and reflectors to those that are no more effective than water. Safe operations can then be ensured by maintaining controls and restrictions on these parameters and by maintaining a mass or a dimensional limit that will always be subcritical regardless of the values of other variables such as the dimensions of pieces or the actual or potential ratio of moderator to uranium atoms.

Regardless of the degree of sophistication in the method employed to calculate these limits, a sine qua non in nuclear safety work is that the method be normalized to available experimental data. Preferably the normalization is made in terms of some slowly varying parameter relating calculations and critical experiments. Safe masses or dimensional limits are then chosen to correspond to values of the parameter that are subcritical by a sufficiently large margin to compensate adequately for fluctuation in the critical values. For a highly sophisticated method, the expectation is that little or no normalization should be required and that it would be difficult in any comparison with experiment to distinguish between errors in calculated results and errors in experiments. Highly sophisticated methods, however, require a large amount of time to set up and a large amount of computing time. Since the number of experimental data points with which to compare is large and since the number of calculations required to establish safe limits is even larger, there is a considerable incentive for using a simple, approximate method of calculation. Provided the experimental data are in the range of interest so that only interpolations or small extrapolations are involved, as is usually the case for slightly enriched uranium, such a procedure is valid and is the one adopted here.

SUMMARY

A simple, approximate method for computing the critical dimensions of lattices of uranium metal and of uranium oxide rods in water is described. The calculation was divided into two parts: (1) the calculation of the material buckling by an asymptotic multigroup code employing the transport expression for the leakage and (2) the calculation of the critical size by a two-group diffusion theory code employing parameters generated by the first code.

The method was applied to steady-state experiments (critical and exponential) and comparison was made in terms of the k_{eff} calculated for the experiment, on the basis of the number of rods employed and on the basis either of the length of the rods or of the axial buckling, as determined experimentally from flux traverses. As is to be expected with a simple, approximate method, the values of k_{eff} differ considerably from unity in some ranges. There is a strong variation of k_{eff} with the ratio of the volumes of water and uranium and there are lesser variations with rod diameter and enrichment. Least squares fitting and smooth extrapolations were employed to obtain average curves of k_{eff} as a function of these variables. Deviations of individual data points from the average values of k_{eff} as given by the curves fall within ±0.015 and for the most part within ±0.01 as shown in Tables I-III.

Bucklings of lattices of unclad uranium metal and uranium oxide rods having various diameters were calculated for several enrichments and for a wide range of volume ratios. Critical dimensions of these lattices were calculated by the two-group code from parameters generated by the buckling code to be those for which k_{eff} has the appropriate average value as given by the curves. Safe dimensions were calculated to be those for which k_{eff} is 0.02 smaller. The critical and safe dimensions and masses and the corresponding critical and safe bucklings and extrapolation distances are given in the Appendix. Minimum masses and dimensions read from the Appendix are given in Table VI-VIII.

DISCUSSION

METHOD OF CALCULATION

For a particular lattice, the material buckling is calculated by an asymptotic multigroup transport code and the extrapolation distances by a two-group diffusion theory code from parameters generated in the multigroup calculation.

There are twelve energy groups in the buckling code. The top ten groups correspond to Loewenstein and Okrent's[1] top ten groups. Except for the cross sections of H_2O, the cross sections for these groups are taken from Yiftah, Okrent, and Moldauer[2]. The H_2O cross sections for these groups and for an eleventh (resonance) group extending from 9.1 kev down to 0.625 ev are derived from a zero dimensional multigroup calculation in which a lethargy width of 0.1 was used and in which allowance was made for anisotropic scattering[3]. The cross sections in the thermal group are taken from Amster's[4] compendium; intermediate values are obtained by Lagrange interpolation. Homogeneity is assumed in the top ten groups. Hellstrand's[5] resonance integrals for U and UO_2 are used for the resonance group, together with effective surface-to-volume ratios calculated on the assumptions of black fuel, uniform source distributions within moderator and cladding, and cosine currents at interfaces; otherwise homogeneity is also assumed in the resonance group. For homogeneous systems, the ^{238}U resonance integral is expressed as a function of the total scattering cross section per atom of ^{238}U. In the thermal group, a P_3 calculation provides the disadvantage factors. Flux and volume weighting of effective hydrogen atoms, ^{235}U atoms, and 1/v absorbers gives new values of the ratios of $^{235}U/H$ and of barns of 1/v absorber per hydrogen atom, the parameters on which the thermal spectrum depends in Amster's compendium. The P_3 calculations are repeated with cross sections derived from the new spectrum until the process converges.

Leakage in each group, i, is calculated from the asymptotic transport expression,

$$D_i B^2 = \frac{B - \Sigma_i \tan^{-1} \frac{B}{\Sigma_i}}{\tan^{-1} \frac{B}{\Sigma_i}} \qquad (1)$$

where Σ_i is the transport cross section. This expression results from replacing the total cross section by the transport cross section and assuming isotropic scattering in the laboratory system (transport approximation). This approximation is better[3] than the diffusion

approximation (though not as good as indicated in the reference due to b in the reference being too large by a factor of 2). The buckling code calculates by iteration the material buckling required to make the rate of production of neutrons by fission equal the sum of the rates of absorption and leakage. The migration area (used below in the comparison of calculation and experiment) is obtained as $M^2 = \frac{k-1}{B^2}$ where k is the ratio of the rates of production and absorption.

The spectrum generated by the calculation furnishes average values of Σ for a fast group comprising the top eleven groups and for a thermal group and average values of c_{11}, c_{21}, c_{12}, and c_{22} where c_{11} represents the number of secondary neutrons per fast interaction remaining in the fast group, c_{21} the number appearing in the slow group, c_{12} the number per slow interaction appearing in the fast group, and c_{22} the number remaining in the slow group. The first three parameters are then adjusted, by artificially increasing the number of neutrons released by fission and by increasing the removal cross section, so that the two-group equations, which employ the diffusion approximation for the leakage: $D_1B^2 = B^2/3\Sigma_1$, give the same buckling and the same ratio of fast to slow flux components corresponding to this eigenvalue as are given by the buckling code. The two-group parameters for the water reflector are also generated by the buckling code with the buckling set equal to zero. The two-group calculations, giving the extrapolation distances into the reflector, are one-dimensional. Separability of the flux is assumed. Dimensions are fixed, and criticality is achieved by adjusting the transverse buckling.

There are a number of places where these procedures obviously could be improved. They account, however, for major effects and are quite fast: a buckling calculation for a simple lattice requires perhaps 20 sec on an IBM 704 and a two region, two-group calculation perhaps only 10 sec.

EXPERIMENTAL DATA

A review of data obtained from exponential and critical experiments with lattices of slightly enriched uranium and uranium oxide in water has recently been published[6]. The lattices are of both solid and hollow rods and in some cases boron is present in the moderator. In the present work only the lattices of solid rods in water without boron are considered, and a few of these, for which the experiments appear to be insufficiently well described, are omitted. The assumption is made that masses or sizes smaller than those achievable with solid rods cannot be achieved with hollow rods or tubes. A study of available data[6] does not appear to contradict this assumption; on the other hand no systematic effort is made here to prove it.

The review presents material bucklings and extrapolation distances (reflector savings), which are inherently not independent. The extrapolation distances were obtained in different ways: sometimes by requiring lattices of different shapes to have common values of geometric buckling and extrapolation distance, sometimes by flux traverses, and sometimes by inference from other experiments or by calculation. In any survey of data made for the purpose of normalizing experiments, it is desirable to have bucklings and extrapolation distances all on the same basis. A search was therefore made of the original literature, to which reference is made in the review, to obtain the lattice dimensions. The lattices were assumed to be circular or rectangular cylinders with bases having areas equal to the area of the cell surrounding a rod multiplied by the number of rods. Two-group calculations were made with calculated parameters and experimental dimensions to obtain the extrapolation distance on the diameter or on the length and width.

Rod, cladding, and cell radii were likewise derived from the original literature, and V_{H_2O}/V_U ratios were calculated from these radii. There are some small discrepancies between these ratios and the reported ratios. Tables I and II list the laboratory where the data originated. No references are given to the original data, however, since the review[6] has a complete listing.

For exponential experiments the axial buckling, B_H^2, is reported in many of the original references. The Brookhaven National Laboratory (BNL) results with metal rods, however, generally represent in each case several experiments performed with lattices of various sizes. The original data do not appear to be readily available; hence, a representative lattice diameter of 50.8 cm was assumed, and from the BNL values of extrapolation distance and buckling the axial bucklings of lattices of this diameter were calculated. Geometric bucklings are then the sum of these axial bucklings and radial bucklings calculated by the two-group code for 50.8-cm-diameter cylinders. For the BNL data obtained with oxide rods, a lattice diameter of 36.00 cm was assumed. The original reference gives results obtained with both variable loading and radial flux traverse, and both are included here.

For critical experiments, the reported axial extrapolation distances (and hence axial bucklings) were often used here because conditions at the ends of the rods make calculations uncertain. In some cases water did not cover the ends and in others, where it did, end fittings on the rods changed the nature of the reflector. Where water covered the ends and no end fittings were involved, two-group calculations were made to obtain the axial extrapolation distance.

TABLE I

Lattices of Metal Rods in Water

Matls[a]	Cell Radii[b], cm				V_{H_2O}/V_U	Lattice Type and Dim.[c], cm			B_H^2, m^{-2} or (H, cm)	Δk_{eff} x 100	Laboratory
AW	0.660	1.032			1.44	S	120.00	120.00	-14.70	-1.06	Harwell
		1.146			2.01		120.00	120.00	-13.36	-0.41	
		1.433			3.71		120.00	120.00	-20.68	0.34	
AW	1.000	1.526			1.33	T	113.28	117.70	-17.36	-0.69	ORNL
		1.686			1.84		125.05	130.19	-11.89	-0.55	
		1.778			2.16		132.03	137.10	-12.40	-0.38	
AW	1.175	1.867			1.53	T	34.42		-94.26	1.35	Hanford
		2.000			1.90		36.88		-88.50	1.04	
		2.134			2.30		39.34		-85.26	1.17	
AVQW	1.397	1.524	1.651	2.373	1.49	T	50.80		-54.24	0.69	BNL
AW	1.499	2.501			1.79	T	157.58	157.58	-10.62	-0.16	ORNL
		2.301			1.36		168.80	168.80	- 8.81	-0.45	
AW	1.524	2.150			0.99	S	120.00	120.00	-14.70	1.23	Harwell
		2.645			2.01		120.00	120.00	-13.36	1.48	
AWQW	1.626	1.645	1.746	2.293	0.86	S	82.98	86.65	-35.61	-0.47	AECL
				3.024	2.33		87.10	89.81	-38.64	-1.09	
BVRW	0.953	0.969	1.022	1.347	0.85	S	63.68	72.26	-28.91	-0.69	Harwell
				1.648	1.84		66.08	71.74	- 2.16	-0.41	
CVQW	1.524	1.544	1.594	1.978	0.59	S	63.09	63.09	-42.28	0.68	Harwell
				2.150	0.90		88.62	72.18	-11.57	-0.52	
				2.408	1.40		72.78	71.38	- 3.26	-0.75	
				2.651	1.93		91.12	71.88	- 1.13	-0.59	
CVSW	1.524	1.546	1.594	2.150	0.90	S	53.34	53.34	-44.44	-0.96	Harwell
				2.651	1.93		61.09	61.09	-27.70	-0.92	
DVQW	1.697	1.786	1.910	2.667	1.20	T	39.56		-57.31	-0.04	Hanford
				2.801	1.46		41.54		-50.02	0.12	
				2.934	1.72		43.52		-47.50	-0.15	
				3.201	2.29		47.48		-46.59	0.33	
DVTW	1.697	1.793	1.918	2.667	1.19	T	39.56		-79.44	0.07	Hanford
				2.801	1.45		41.54		-70.74	0.91	
				2.934	1.71		43.52		-69.10	0.52	
				3.201	2.28		47.48		-69.33	0.79	
EQW	1.175	1.264	1.680		0.89	T	30.98		-89.34	1.02	Hanford
			1.867		1.37		35.22		-62.20	0.01	
			1.867		1.37		34.42		-65.35	0.02	
			2.000		1.74		37.74		-50.02	0.31	
			2.067		1.94		39.44		-46.59	-0.06	
			2.134		2.14		40.26		-48.36	-0.80	
			2.134		2.14		39.34		-47.90	0.10	
EVEV-QW	1.175	1.194	2.108	2.126	0.86	T	54.74		-29.28	0.30	Hanford
		2.197	2.934								
			3.267		1.33		60.96		-12.45	0.14	
			3.601		1.85		67.18		-12.76	0.64	
FVQW	0.318	0.330	0.402	0.560	1.50	T	60.80		-39.51	-0.03	BNL
				0.602	1.99		50.80		-31.83	0.20	
				0.681	2.99		50.80		-28.41	0.14	
				0.751	3.99		50.80		-32.18	-0.01	
FVQW	0.492	0.504	0.575	0.757	1.00	T	50.80		-46.77	0.00	BNL
				0.833	1.50		50.80		-32.14	-0.43	
				0.902	2.00		50.80		-25.00	-0.33	
				1.028	3.00		50.80		-24.11	-0.37	
				1.139	4.00		50.80		-31.54	-0.69	
FVQW	0.762	0.775	0.846	1.138	1.00	T	50.80		-39.66	-0.24	BNL
				1.260	1.50		50.80		-23.90	-0.29	
				1.370	2.00		50.80		-18.88	-0.28	
				1.567	3.00		50.80		-23.64	-0.50	
				1.743	4.00		50.80		-36.01	-0.81	
FQW	0.953	1.029	1.506		1.33	T	50.80		-23.85	-0.24	BNL
			1.580		1.58		50.80		-19.85	-0.34	
			1.650		1.83		50.80		-17.79	-0.27	
			1.782		2.33		50.80		-18.73	-0.22	
			1.905		2.83		50.80		-22.39	0.09	
			2.130		3.83		50.80		-38.52	-0.33	
GVQW	1.524	1.541	1.590	2.150	0.90	S	53.34	53.34	-12.94	-0.09	Harwell
				2.408	1.41		39.30	70.90	- 5.44	-0.71	
				2.651	1.94		42.29	42.29	-20.29	-0.21	
HVQW	0.318	0.330	0.402	0.560	1.50	T	60.80		-30.42	0.27	BNL
				0.602	1.99		50.80		-20.99	0.66	
				0.681	2.99		50.80		-15.51	0.67	
				0.751	3.99		50.80		-18.20	0.51	

TABLE I, Continued

Matls[a]	Cell Radii[b], cm				V_{H_2O}/V_U	Lattice Type and Dim.[c], cm		B_H^2, m^{-2} or (H, cm)	Δk_{eff} x 100	Laboratory
HVQW	0.492	0.504	0.575	0.757	1.00	T	50.80	-38.00	0.36	BNL
				0.833	1.50		50.80	-21.22	0.10	
				0.902	2.00		50.80	-12.42	0.31	
				1.028	3.00		50.80	- 9.56	0.37	
				1.139	4.00		50.80	-15.64	0.21	
HVQW	0.762	0.775	0.846	1.138	1.00	T	50.80	-30.20	0.08	BNL
				1.260	1.50		50.80	-13.20	-0.06	
				1.370	2.00		50.80	- 6.53	0.09	
				1.567	3.00		50.80	- 9.07	0.13	
				1.743	4.00		50.80	-21.05	-0.17	
IVQW	0.762	0.775	0.846	1.374	2.02	T	59.12	(121.92)	-0.01	BAPL
				1.570	3.01		61.20	(121.92)	0.14	
JVQW	0.762	0.775	0.846	1.263	1.52	T	55.22	(121.92)	0.09	BAPL
				1.374	2.02		50.28	(121.92)	0.23	
				1.570	3.01		51.20	(121.92)	0.18	
KVQW	0.492	0.504	0.575	0.906	2.03	T	54.48	5.34	0.33	BAPL
				0.906	2.03		56.34	7.85	0.33	
				1.030	3.02		51.74	5.32	0.31	
LVQW	0.492	0.504	0.575	0.757	1.00	T	50.80	-29.24	0.30	BNL
				0.833	1.50		50.80	-11.11	-0.04	
				0.902	2.00		50.80	- 1.04	0.17	
				1.028	3.00		50.80	3.96	0.30	
				1.139	4.00		50.80	-1.05	0.12	
LVQW	0.762	0.775	0.846	1.138	1.00	T	50.80	-19.92	0.25	BNL
				1.260	1.50		50.80	- 1.75	-0.03	
				1.370	2.00		50.80	6.13	0.11	
				1.567	3.00		50.80	4.87	0.07	
				1.743	4.00		50.80	- 5.95	-0.11	
MVQW	1.697	1.781	1.905	2.667	1.21	T	37.34	-30.09	0.24	Hanford
				2.801	1.46		40.40	-22.23	-1.03	
				2.934	1.73		41.08	-17.15	-0.11	
				3.201	2.30		44.80	-15.99	-0.26	
				3.467	2.92		48.54	-22.04	-0.19	
NW	0.762	1.334			2.06	T	27.84	-27.36	-0.03	Hanford
		1.334			2.06		35.42	(81.28)	0.07	
		1.334			2.06		42.56	(40.64)	0.13	
		1.467			2.71		27.06	-29.60	0.09	
		1.467			2.71		34.58	(81.28)	0.10	
		1.467			2.71		41.28	(40.64)	0.15	
		1.600			3.41		28.44	-26.82	-0.31	
		1.600			3.41		35.68	(81.28)	-0.03	
		1.600			3.41		42.76	(40.64)	0.10	
		1.734			4.18		30.80	-21.92	-0.31	
		1.734			4.18		38.08	(81.28)	-0.06	
		1.734			4.18		46.40	(40.64)	0.08	
		1.894			5.18		34.92	-16.30	-0.14	
		1.894			5.18		42.84	(81.28)	0.01	
		1.894			5.18		54.14	(40.64)	0.16	
		2.134			6.84		44.56	-11.93	-0.13	
		2.134			6.84		56.34	(81.28)	0.15	
NW	1.175	2.000			1.90	T	29.72	-20.62	-0.22	Hanford
		2.000			1.90		36.32	(81.28)	-0.01	
		2.000			1.90		43.40	(40.64)	0.31	
		2.134			2.30		29.94	-21.63	-0.63	
		2.134			2.30		36.34	(81.28)	-0.03	
		2.134			2.30		43.46	(40.64)	0.25	
		2.267			2.72		29.74	-26.06	-0.35	
		2.267			2.72		37.52	(81.28)	-0.07	
		2.267			2.72		45.32	(40.64)	0.17	
		2.401			3.18		31.48	-23.70	-0.26	
		2.401			3.18		39.66	(81.28)	-0.02	
		2.401			3.18		48.52	(40.64)	0.26	
		2.601			3.90		36.40	-17.35	-0.37	
		2.601			3.90		38.58	- 7.13	0.14	
		2.601			3.90		44.86	(81.28)	0.17	
		2.601			3.90		56.74	(40.64)	0.64	

TABLE I, Continued

Matls[a]	Cell Radii[b], cm			V_{H_2O}/V_U	Lattice Type and Dim.[c], cm		B_H^2, m^{-2} or (H, cm)	Δk_{eff} x 100	Laboratory
OW	0.222	0.400		2.24	T	22.36	-50.95	-0.46	Hanford
		0.500		4.06		25.72	- 6.78	-0.16	
		0.500		4.06		29.56	(59.69)	-0.02	
		0.600		6.29		24.98	-16.98	-0.01	
		0.600		6.29		30.08	(59.69)	0.24	
		0.667		8.00		25.96	-18.99	-0.01	
		0.667		8.00		31.84	(59.69)	0.24	
		0.734		9.89		28.56	-13.55	-0.08	
		0.734		9.89		34.54	(59.69)	0.17	
		0.800		11.96		31.16	-12.59	-0.13	
		0.800		11.96		38.30	(59.69)	0.04	
OW	0.381	0.667		2.06	T	22.68	-39.66	0.33	Hanford
		0.800		3.41		25.46	- 5.20	-0.04	
		0.800		3.41		27.64	(81.28)	0.12	
		0.800		3.41		31.50	(40.64)	0.37	
		0.934		5.00		25.54	- 9.54	-0.27	
		0.934		5.00		28.32	(81.28)	-0.09	
		0.934		5.00		32.18	(40.64)	0.32	
		1.067		6.84		27.24	-10.03	-0.17	
		1.067		6.84		30.18	(81.28)	0.36	
		1.067		6.84		35.18	(40.64)	0.25	
		1.200		8.93		30.64	- 8.13	-0.31	
		1.200		8.93		34.28	(81.28)	-0.02	
		1.200		8.93		40.58	(40.64)	0.16	
OW	0.762	1.334		2.06	T	26.26	- 6.49	-0.20	Hanford
		1.334		2.06		28.60	(81.28)	0.24	
		1.334		2.06		32.90	(40.64)	0.41	
		1.467		2.71		25.06	-10.82	-0.13	
		1.467		2.71		28.02	(81.28)	0.01	
		1.467		2.71		31.94	(40.64)	0.31	
		1.600		3.41		26.20	- 7.86	-0.67	
		1.600		3.41		28.60	(81.28)	-0.16	
		1.600		3.41		32.72	(40.64)	0.08	
		1.734		4.18		27.08	- 8.13	-0.36	
		1.734		4.18		29.84	(81.28)	-0.06	
		1.734		4.18		34.48	(40.64)	0.05	
		1.894		5.18		29.58	- 5.92	-0.43	
		1.894		5.18		32.54	(81.28)	-0.20	
		1.894		5.18		37.94	(40.64)	0.08	
		2.134		6.84		34.40	- 6.97	-0.17	
		2.134		6.84		38.74	(81.28)	0.13	
		2.134		6.84		47.14	(40.64)	0.40	
OVW	1.175	1.194	2.000	1.87	T	31.00	(60.96)	0.00	Hanford
			2.000	1.87		33.96	(40.64)	0.48	
			2.134	2.27		30.90	(60.96)	-0.18	
			2.134	2.27		34.02	(40.64)	0.13	
			2.267	2.69		31.80	(60.96)	-0.50	
			2.267	2.69		34.70	(40.64)	0.17	
			2.401	3.14		32.88	(60.96)	-0.20	
			2.401	3.14		36.16	(40.64)	0.34	
			2.601	3.87		28.96	-17.85	-0.14	
			2.601	3.87		28.96	-16.12	0.23	
			2.601	3.87		36.26	(60.96)	-0.17	
			2.601	3.87		40.42	(40.64)	0.35	

(a) Materials used in the calculations are designated as follows:

A - O are uranium, Q - U are cladding, V is void, and W is water. The various weight % ^{235}U and metal densities are:
A - 0.71, 18.9; B - 0.923, 18.8; C - 0.923, 18.7;
D - 0.95, 18.9; E - 1.007, 18.9; F - 1.027, 18.9;
G - 1.136, 18.7; H - 1.143, 18.9; I - 1.145, 18.9;
J - 1.294, 18.9; K - 1.296, 18.9; L - 1.299, 18.9;
M - 1.44, 18.9; N - 2.00, 18.9; O - 3.063, 18.9.
The various cladding materials, percentage compositions, and densities are Q - Al, 100 Al, 2.7; R - Al, 100 Al, 2.8;
S - SS, 74 Fe, 18 Cr, 8 Ni, 8.2; T - Fe, 100 Fe, 7.86.

(b) Radii are outer radii of regions, beginning with uranium and ending with equivalent cylindrical cell radius.

(c) Lattice type is either square (S) or triangular (T). Dimensions are length and width of a rectangular array if two are given or diameter of a circular array if only one is given.

TABLE II

Lattices of Oxide Rods in Water

Matls[a]	Cell Radii[b], cm				V_{H_2O}/V_U	Lattice Type and Dim.[c], cm		B_H^2, m^{-2} or (H, cm)	Δk_{eff} x 100	Laboratory
AVPW	0.493	0.504	0.575	0.818	3.97	T 90.28		5.11	0.50	BAPL
				0.818	3.97	96.52		7.21	0.46	
				0.868	4.96	91.60		5.24	0.69	
				0.868	4.96	101.44		8.30	0.62	
AVPW	0.763	0.775	0.846	1.158	3.06	T 82.50		5.05	-0.06	BAPL
				1.158	3.06	85.70		6.51	-0.06	
				1.158	3.06	92.38		8.76	-0.22	
				1.239	4.01	79.42		5.13	-0.01	
				1.239	4.01	83.78		7.32	-0.01	
				1.239	4.01	96.58		11.93	-0.17	
				1.319	5.01	82.88		5.20	0.13	
				1.319	5.01	88.88		7.88	0.13	
BVPW	0.486	0.504	0.575	0.818	2.91	T 76.26		5.24	-0.11	BAPL
				0.818	2.91	79.56		7.06	-0.14	
				0.818	2.91	81.66		8.13	-0.15	
				0.818	2.91	85.22		9.61	-0.25	
				0.868	3.64	72.72		5.29	-0.01	
				0.868	3.64	75.26		7.02	0.00	
				0.868	3.64	90.42		14.22	-0.17	
				0.948	4.89	75.24		5.30	0.24	
				0.948	4.89	78.42		7.20	0.21	
				0.948	4.89	93.48		13.95	0.11	
CVPW	0.565	0.572	0.635	0.896	2.59	S 33.34	87.32	7.05	-0.75	CEND
				0.896	2.59	34.92	87.32	9.54	-0.78	
				1.267	7.81	36.52	87.38	5.93	-0.48	
				1.267	7.81	34.92	87.32	8.34	1.02	
DVPW	0.515	0.522	0.603	0.853	2.86	S 83.28		4.07	-0.43	B and W
EVQW	0.381	0.389	0.430	0.580	2.21	S 64.02		5.42	-0.04	WAPD
				0.599	2.53	65.58		12.35	-0.21	
				0.599	2.53	65.52	57.04	13.41	-0.30	
				0.623	2.96	53.64		5.42	-0.08	
				0.674	3.90	48.54		5.42	0.02	
				0.707	4.56	50.30		10.96	-0.06	
				0.707	4.56	52.60	37.02	6.64	-0.02	
				0.821	7.11	47.20		5.53	0.34	
				0.881	8.59	49.54		5.47	0.39	
				0.953	10.50	54.34		5.41	0.30	
FRW	0.564	0.635	0.877		2.61	S 53.40		(168.90)	0.14	B and W
			0.902		2.93	T 36.00		-30.97	0.24	BNL
								-33.42	-0.21	
			0.950		3.56	S 47.60		(168.90)	-0.08	B and W
			0.955		3.64	T 36.00		-26.35	0.17	BNL
								-28.05	-0.34	
			1.028		4.66	T 36.00		-22.96	0.07	
								-23.91	-0.20	
			1.139		6.38	T 36.00		-23.96	0.12	
								-24.67	-0.08	
			1.240		8.10	S 48.40		(168.90)	-0.25	B and W
			1.295		9.08	T 36.00		-34.73	-0.18	BNL
								-35.97	-0.53	
GVSW	0.377	0.389	0.430	0.599	2.53	S 52.72		18.57	-0.24	WAPD
				0.797	4.57	38.02		8.85	-0.14	
HRW	0.564	0.604	0.818		2.18	S 40.36		3.94	-0.30	B and W
			0.853		2.59	37.50		3.60	-0.62	
HRW	0.564	0.635	0.877		2.61	S 43.40		(168.90)	-0.44	B and W
			0.950		3.57	38.60		(168.90)	-0.36	
			1.240		8.10	37.20		(168.90)	-0.53	
			1.343		10.00	39.60		(168.90)	-0.85	

(a) Materials used in the calculations are designated as follows:

A - H are uranium oxide, P - U are cladding, V is void and W is water. The various weight % ^{235}U, weight % oxygen, and oxide densities are: A - 1.311, 11.85, 7.52 - 7.53; B - 1.311, 11.85, 10.53; C - 1.85, 12.00, 10.35; D - 2.459, 11.87, 10.29; E - 2.700, 11.90, 10.18; F - 3.000, 11.85, 9.45; G - 3.700, 11.90, 10.37; H - 4.020, 12.00, 9.46. The various cladding materials, percentage compositions, and densities are P - Al, 100 Al, 2.7; Q - SS, 72.22 Fe, 18.20 Cr, 9.58 Ni, 0.003B, 7.9; R - SS, 70.90 Fe, 18.50 Cr, 10.60 Ni, 0.002B, 7.9; S - SS, 72.02 Fe, 18.54 Cr, 9.44 Ni, 0.005B, 7.9. Boron was not actually present in the stainless steel but was used to mock up absorbers other than Fe, Cr, and Ni.

(b) See note (b) of Table I.

(c) V_{H_2O}/V_U is the ratio of the volume of water to the volume of uranium having a density of 18.9 g/cm^3.

(d) See note (c) of Table I.

In many of the Hanford Laboratory experiments the fuel rods were encased in plastic tubes. The experimenters reported that results differed insignificantly from those obtained with unclad fuel rods in water. In calculations for these lattices, the plastic tubes were therefore assumed to be water.

Comparison between calculation and experiment was made in terms of

$$k_{eff} = \frac{1 + M^2B^2_{calc}}{1 + M^2B^2_{exptl}} \qquad (2)$$

where B^2_{exptl} was obtained from experimental dimensions, calculated extrapolation distances, and (for exponentials and some criticals) experimental axial bucklings. The metal rod data for enrichments up through 1.5% were considered as a group. Other groups consisted of metal rod data at 2% ^{235}U, at 3.063%, and all the oxide rod data. The k_{eff}'s relating calculation and experiment in all cases showed a trend toward low values at low ratios of water to uranium (Figure 1). The metal rod data below 1.5% also showed trends with enrichment and rod diameter.

For the metal rod data up through 1.5% a least squares fit was made to a polynomial in V_{H_2O}/V_U and to linear terms in rod diameter and enrichment. Since all the data are undoubtedly not equally good and since some (e.g., the BNL data) are the result of several determinations, a least squares fitting without the use of appropriate weighting factors is not a strictly valid procedure. It does, however, serve the useful purpose of providing an average curve through the data expressed in terms of k_{eff}. The curve obtained was plotted against V_{H_2O}/V_U, a smooth extrapolation was made to values of V_{H_2O}/V_U somewhat higher than the range encompassed by the data, and a polynomial fit was made to the resulting extrapolated curve. Deviations from this curve and from the linear dependence of k_{eff} on rod diameter and enrichment are given in Table I and fall within ±0.015 and for the most part within ±0.01. The deviations are obtained by subtracting the value relating calculation and experiment from the average value at the same V_{H_2O}/V_U, rod diameter, and enrichment; hence, a negative deviation indicates that the average value overestimates the reactivity and is slightly conservative.

The metal rod data at 2% and at 3.063% ^{235}U were fitted by least squares to polynomials in V_{H_2O}/V_U and linear terms in rod diameter. The variation with rod diameter is in the opposite direction from that for the lower enrichments. Again curves were plotted against V_{H_2O}/V_U, smooth extrapolations were made to higher ratios, and polynomial fits were made to the extrapolated curves.

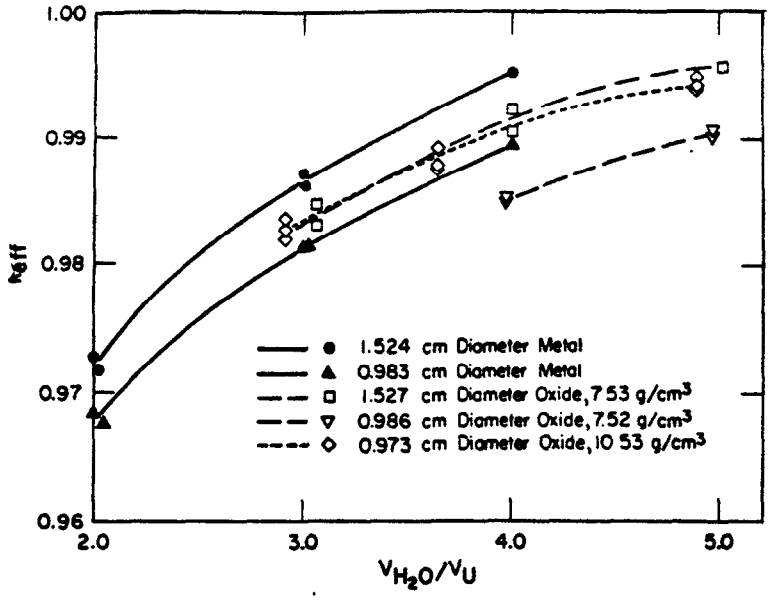

FIG. 1 METAL AND OXIDE ROD DATA AT AN ENRICHMENT OF ABOUT 1.3%

The oxide rod data appear to show no significant trends with rod diameter or enrichment, possibly because the data are not so extensive as for metal rods. Again least squares fitting gave an average curve as a function of V_{H_2O}/V_U. To extend the curve to high ratios, use was made of critical data obtained with aqueous solutions of UO_2F_2 in which the uranium contained 4.89% ^{235}U[7]. In calculations made for these solutions, F was assumed to have the same nuclear properties as O. Deviations from the average curve are presented in Table II for the oxide lattices and in Table III for the solution data[7] that have been published in the open literature.

TABLE III

Water-Reflected Cylinders of Aqueous Solutions of UO_2F_2 in which the Uranium Contains 4.89% ^{235}U

Conc g U/l	V_{H_2O}/V_U	Dia., cm	Ht, cm	Δk_{eff} x 100
890	18.18	30.7	173.2	0.79
		31.1	139.6	0.64
		33.0	72.4	0.64
		38.1	41.7	0.52
870	18.68	38.1	44.8	0.02
		38.1	50.4	0.00
		50.8	29.3	-0.10
728	22.98	38.1	75.6	-0.22
		50.8	34.7	-0.33
650	26.14	38.1	153.0	-0.20
		50.8	40.1	-0.22
496	35.25	50.8	85.7	-0.08
452	38.99	68.8 (sphere)		-0.06

Experiments[8,9] with homogeneous systems have been performed to determine the amount of neutron absorber that must be added or subtracted to make $k_\infty = 1$ and $B_r^2 = 0$. Calculations were made of the bucklings of these systems, with the absorber considered to be boron. The k_{eff} relating calculation and experiment is then simply the calculated k. For systems[8] having enrichments near 1%, deviations of the calculated k_{eff}'s from the average values (extrapolated to zero rod diameter) obtained by fitting the metal rod data in the range from 0.71 to 1.5% are given in Table IV. Deviations of k_{eff}'s calculated for the homogeneous system[9] having an enrichment of 3.04% from the average curve for oxide lattices are all negative (conservative), and in absolute value less than 0.02 for V_{H_2O}/V_U ratios less than 9. For ratios from 20 to 35, however, the magnitude of the deviation increases from about 0.03 to 0.06 and appears inconsistent with the results obtained with the UO_2F_2 solutions.

TABLE IV

Infinite Critical Compositions

Wt % ^{235}U	V_{H_2O}/V_U	μg B/g U	$\Delta k_{eff} \times 100$
1.0059	2.741	-5.26	-0.20
	3.622	-5.12	-0.08
	4.456	-8.82	0.26
	4.970	-12.88	0.50
	5.378	-21.79	0.05
1.0704	2.705	4.30	-0.80
	4.175	4.57	-0.64
	5.106	-3.23	-0.34
1.1586	2.712	21.45	-1.08
	4.287	25.20	-0.69
	4.938	24.48	-0.14
	5.374	16.60	-0.48

Close examination of Tables I and II no doubt will show small trends that separable variations with V_{H_2O}/V_U, rod diameter, and enrichment make no allowance for. A more sophisticated analysis of the BNL exponential data with metal rod lattices has been reported[10]. Bucklings calculated in this analysis are compared in Table V both with the reported experimental bucklings[8] and with those adjusted to the extrapolation distances calculated here for 50.8-cm-diameter cylinders. The comparison is made in terms of average deviations of k_{eff} as calculated by Equation 2 from unity. The migration areas used are those calculated here, but the k_{eff}'s in the first column differ insignificantly from reported values[10]. The averages are taken over the two unspecified variables. The third column lists similar averages of the deviations given in Table I. All three columns indicate the rods enriched to 1.027% to be less reactive than would be expected from normalization to the experimental results at 1.143 and 1.299% enrichment.

Despite the linear variation with rod diameter allowed in the third column, all three columns indicate the 0.635-cm-diameter rods to be more reactive than would be expected from normalization to the experimental results for the larger diameter rods.

TABLE V

Analyses of BNL Data Obtained with 0.635, 0.983, and 1.524 cm Dia. Rods

Wt % ^{235}U	Rod Dia., cm	V_{H_2O}/V_U	$\Delta k = k_c - \frac{1 + M^2B^2_{calc}}{1 + M^2B^2_{exptl}}$ (a)		
			$\Delta k \times 10^2$	$\Delta k' \times 10^2$	$\Delta k'' \times 10^2$
1.027			0.365	0.674	-0.260
1.143			0.851	1.160	0.278
1.299			0.775	1.125	0.114
	1.524		0.557	0.875	-0.117
	0.983		0.584	0.872	0.025
	0.635		0.958	1.341	0.301
		1.0	0.430	0.985	0.125
		1.5	0.756	1.213	-0.064
		2.0	0.724	1.059	0.116
		3.0	0.588	0.771	0.101
		4.0	0.708	0.835	-0.119

(a) For Δk and $\Delta k'$, $k_c = 1$. For $\Delta k''$, k_c is average value as a function of V_{H_2O}/V_U, % ^{235}U, and rod diameter. For Δk and $\Delta k'$, B^2_{calc} is taken from Reference 10. For $\Delta k''$, B^2_{calc} is calculated by the procedure outlined here. For Δk, B^2_{exptl} is the reported value. For $\Delta k'$ and $\Delta k''$, B^2_{exptl} is the reported value adjusted to extrapolation distance calculated here for a 50.8 cm diameter cylinder.

CRITICAL AND SAFE VALUES

Bucklings of lattices of unclad uranium metal and uranium oxide rods in water were calculated for several enrichments and for a wide range of ratios of the volumes of water and uranium. Critical diameters of spheres and of infinite cylinders and critical thicknesses of infinite slabs of these lattices were calculated by the two-group code from parameters generated by the buckling code to be those that would have the average values of k_{eff} relating experiment and calculation. Safe dimensions were calculated to be those having values of k_{eff} that are 0.02 smaller. The critical and safe sizes and the corresponding critical and safe bucklings, defined by

$$B^2 = \frac{\frac{1-k_{eff}}{M^2} + B^2_m}{k_{eff}} \qquad (3)$$

where k_{eff} is the average value relating experiment and calculations or a value 0.02 smaller and where B^2 and M^2 are provided by the buckling code and the extrapolation distances calculated by the two-group code, are given in the Appendix. For convenience, the minima read from these tables are listed in Tables VI-VIII together with the approximate rod diameter and volume ratio at which they occur so that ready reference can be made to Tables I-IV to determine the amount of extrapolation outside the range of the experimental data. In some cases extrapolation of values in the Appendix was required to obtain the minimum areal densities of Table VIII. In the Appendix rod diameters are given in inches, and volume ratios are expressed as the average concentration or density of ^{235}U in the lattice.

TABLE VI

Minimum Critical and Maximum Safe Masses for Uranium Metal (density 18.9 g/cm3) and Uranium Oxide (density 10.9 g/cm3, 12% oxygen) in Water

Wt % ^{235}U	Metal or Oxide	Mass, kg ^{235}U		Approximate	
		Critical	Safe	Rod Dia., cm	V_{H_2O}/V_U
0.71	M	49,200.	260.	2.0	1.8
0.80	O	725.	143.	2.8	2.2
0.95	O	42.0	26.2	2.0	3.0
1.00	M	18.2	13.1	1.3	2.8
1.08	O	19.4	13.9	1.7	3.5
1.17	O	13.8	10.4	1.5	3.7
1.30	O	9.70	7.65	1.3	4.0
1.40	M	6.23	5.04	0.8	4.5
1.50	O	6.61	5.36	1.0	5.0
2.00	M	3.48	2.94	0.5	6.0
2.00	O	3.99	3.37	0.9	6.0
3.00	M	2.36	2.03	0.3	10.0
3.00	O	2.45	2.12	0.5	10.0
5.00	M	1.47	1.29	0.13	18.0
5.00	O	1.56	1.36	0.3	18.0

TABLE VII

Minimum Critical and Maximum Safe Sizes for Uranium Metal (density 18.9 g/cm3) and Uranium Oxide (density 10.9 g/cm3, 12% oxygen) in Water

Wt % ^{235}U	Metal or Oxide	Cylinder Dia., cm		Slab Thickness, cm		Volume, liter		Approximate	
		Critical	Safe	Critical	Safe	Critical	Safe	Rod Dia., cm	V_{H_2O}/V_U
0.71	M	949.	163.	616.	102.	1,010,000.	5320.	2.0	1.8
0.80	O	250.	147.	159.	91.2	19,000.	3920.	3.0	2.0
0.95	O	94.1	80.6	56.8	48.0	1,070.	686.	2.5	2.5
1.00	M	61.9	55.5	35.9	31.6	321.	234.	1.8	2.0
1.08	O	71.0	63.6	41.7	36.9	476.	348.	2.3	2.5
1.17	O	62.4	56.8	36.1	32.4	328.	251.	2.0	3.0
1.30	O	54.3	50.1	30.8	28.0	221.	176.	1.8	3.0
1.40	M	41.1	38.2	22.2	20.2	101.	82.5	1.4	2.4
1.50	O	46.5	43.4	25.7	23.6	143.	118.	1.6	3.5
2.00	M	32.0	30.1	16.2	15.0	50.5	43.0	1.1	3.0
2.00	O	36.1	34.0	18.8	17.4	70.8	60.3	1.5	3.5
3.00	M	26.3	24.9	12.5	11.5	29.7	25.8	0.9	3.5
3.00	O	28.8	27.4	14.1	13.0	38.2	33.4	1.2	4.0
5.00	M	21.0	20.0	8.98	8.22	16.5	14.5	0.7	4.0
5.00	O	23.4	22.3	10.6	9.79	22.1	19.5	0.9	6.0

TABLE VIII

Minimum Critical and Maximum Safe Areal Densities for Slightly Enriched Uranium Metal (density 18.9 g/cm3) and Uranium Oxide (density 10.9 g/cm3, 12% oxygen) in Water

Wt % ^{235}U	Metal or Oxide	Areal Density, g $^{235}U/cm^2$		Approximate	
		Critical	Safe	Rod Dia., cm	V_{H_2O}/V_U
0.71	M	30.0	4.85	1.9	2.0
0.80	O	5.90	3.17	2.5	2.5
0.95	O	2.07	1.69	1.5	3.5
1.00	M	1.72	1.47	0.8	4.0
1.08	O	1.56	1.33	1.3	4.5
1.17	O	1.35	1.17	1.0	5.5
1.30	O	1.13	1.00	0.9	6.0
1.40	M	1.06	0.97	0.5	6.5
1.50	O	0.95	0.86	0.9	6.0
2.00	M	0.82	0.75	0.3	11.0
2.00	O	0.847	0.772	0.5	11.0
3.00	M	0.70	0.64	0.2	17.0
3.00	O	0.666	0.612	0.3	19.0
5.00	M	0.55	0.51	0.08	30.0
5.00	O	0.553	0.512	0.1	32.0

The average k_{eff}'s used for both metal and oxide rods at enrichments not in excess of 1.5% are those obtained by fitting the metal rod data. Available, comparable metal and oxide rod data expressed as k_{eff} have approximately the same variation with rod diameter and V_{H_2O}/V_U (Figure 1), and lattices of normal density oxide rods and of metal rods of the same diameter have approximately the same k_{eff} at the same V_{H_2O}/V_U ratio. The good agreement (Table IV) of the homogeneous system data with the average k_{eff}'s is a further indication of the validity of this approach.

For metal rods at 2 and at 3%, the average k_{eff}'s are those obtained by fitting the Hanford data at 2 and 3.063%. For oxide rods at 2, 3, and 5% and for metal rods at 5%, the average values are those obtained by fitting all the oxide data and the UO_2F_2 solution data. No metal rod data at 5% are available. The metal rod data at 2 and 3.063% deviate respectively by $-(0.0082\ ^{+0.0099}_{-0.0122})$ and $-(0.0103\ ^{+0.0147}_{-0.0100})$ from the average k_{eff}'s obtained by fitting the oxide rod and solution data, i.e., at 2 and 3.063% the metal rod lattices tend to be less reactive than would be expected from normalization to the oxide rod lattices.

A similar listing of critical parameters for slightly enriched uranium metal rods in water has been made by C. L. Brown[11]. His values at enrichments of 2 and 3.063% are in good agreement with those calculated here, but at 1.03% and even more so at 5% his values are larger.

APPENDIX A

POLYNOMIAL FITS TO DATA

x = Ratio of volume of water at a density of 1 g/cm^3 to volume of uranium at a density of 18.9 g/cm^3

y = Rod diameter in inches

z = Weight percent ^{235}U in uranium

Metal Rod Data

$$0.71 \leqslant z \leqslant 1.5$$

$$k_{eff} = 0.85164 + 0.10312x - 0.037726x^2 + 0.007622x^3 - 0.00081702x^4 + 0.000036035x^5 + 0.015789y + 0.0060969z$$

Metal Rod Data

$$z = 2.0$$

$$k_{eff} = 0.95806 + 0.019947x - 0.0040082x^2 + 0.00048189x^3 - 0.00003334x^4 + 0.00000096377x^5 - 0.001833y$$

Metal Rod Data

$$z = 3.063$$

$$k_{eff} = 0.96581 + 0.01933x - 0.0031758x^2 + 0.00029286x^3 - 0.000014859x^4 + 0.00000030950x^5 - 0.011653y$$

Oxide Rod and Solution Data 1.5*

$$\text{0.71} \leqslant z \leqslant 5.0$$

$$k_{eff} = 0.94151 + 0.01772x - 0.0016781x^2 + 0.000071171x^3 - 0.0000014206x^4 + 0.000000010846x^5$$

* for $z < 1.5$ expressions for metal rods should be used

APPENDIX B

CRITICAL AND SAFE (DELTA KEFF = 0.020) MASSES AND DIMENSIONS OF URANIUM METAL - WATER SYSTEMS IN WHICH THE METAL HAS A DENSITY OF 18.90 GRAMS PER CUBIC CENTIMETER

0.71 % ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.600	53.68		7.76E 02		1.45E 04		2.28E 02		1.44E 02		7.75E 00
0.600	48.80		3.63E 02		7.43E 03		1.82E 02		1.14E 02		5.58E 00
0.600	44.73		3.14E 02		7.02E 03		1.79E 02		1.12E 02		5.02E 00
0.600	41.29		3.92E 02		9.50E 03		1.98E 02		1.25E 02		5.16E 00
0.600	38.34		7.83E 02		2.04E 04		2.57E 02		1.63E 02		6.25E 00
0.600	35.78		9.30E 03		2.60E 05		6.03E 02		3.90E 02		1.39E 01
0.700	59.64		5.71E 03		9.57E 04		4.31E 02		2.77E 02		1.65E 01
0.700	53.68		4.45E 02		8.29E 03		1.89E 02		1.19E 02		6.38E 00
0.700	48.80		2.81E 02		5.77E 03		1.67E 02		1.05E 02		5.11E 00
0.700	44.73		2.84E 02		6.35E 03		1.73E 02		1.08E 02		4.85E 00
0.700	41.29		4.19E 02		1.02E 04		2.03E 02		1.28E 02		5.28E 00
0.700	38.34		1.25E 03		3.26E 04		3.00E 02		1.92E 02		7.36E 00
0.800	59.64		1.45E 03		2.42E 04		2.72E 02		1.73E 02		1.03E 01
0.800	53.68		3.41E 02		6.36E 03		1.73E 02		1.08E 02		5.82E 00
0.800	48.80	4.92E 04	2.60E 02	1.01E 06	5.32E 03	9.49E 02	1.63E 02	6.16E 02	1.02E 02	3.00E 01	4.97E 00
0.800	44.73		3.05E 02		6.81E 03		1.77E 02		1.11E 02		4.97E 00
0.800	41.29		5.84E 02		1.41E 04		2.27E 02		1.44E 02		5.93E 00
0.800	38.34		6.85E 03		1.79E 05		5.32E 02		3.43E 02		1.32E 01
0.900	59.64		8.46E 02		1.42E 04		2.27E 02		1.44E 02		8.56E 00
0.900	53.68		3.05E 02		5.68E 03		1.66E 02		1.04E 02		5.59E 00
0.900	48.80	2.75E 05	2.71E 02	5.64E 06	5.55E 03	1.69E 03	1.65E 02	1.10E 03	1.03E 02	5.36E 01	5.04E 00
0.900	44.73		3.87E 02		8.65E 03		1.92E 02		1.21E 02		5.41E 00
0.900	41.29		1.26E 03		3.06E 04		2.94E 02		1.88E 02		7.75E 00
1.000	59.64		6.52E 02		1.09E 04		2.08E 02		1.31E 02		7.82E 00
1.000	53.68		3.04E 02		5.65E 03		1.66E 02		1.04E 02		5.58E 00
1.000	48.80		3.19E 02		6.53E 03		1.75E 02		1.10E 02		5.35E 00
1.000	44.73		6.17E 02		1.38E 04		2.25E 02		1.42E 02		6.37E 00
1.000	41.29		2.61E 04		6.33E 05		8.12E 02		5.26E 02		2.17E 01
1.100	59.64		5.82E 02		9.76E 03		2.00E 02		1.26E 02		7.52E 00
1.100	53.68		3.32E 02		6.18E 03		1.71E 02		1.07E 02		5.77E 00
1.100	48.80		4.30E 02		8.81E 03		1.93E 02		1.22E 02		5.94E 00
1.100	44.73		1.60E 03		3.57E 04		3.10E 02		1.98E 02		8.85E 00
1.200	59.64		5.92E 02		9.93E 03		2.01E 02		1.27E 02		7.56E 00
1.200	53.68		4.09E 02		7.61E 03		1.84E 02		1.16E 02		6.21E 00
1.200	48.80		7.19E 02		1.47E 04		2.30E 02		1.46E 02		7.12E 00

1.00 % ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.300	84.00	1.34E 02	6.72E 01	1.59E 03	8.00E 02	1.07E 02	8.47E 01	6.51E 01	5.02E 01	5.47E 00	4.21E 00
0.300	75.60	5.87E 01	3.59E 01	7.76E 02	4.75E 02	8.40E 01	7.07E 01	4.99E 01	4.12E 01	3.77E 00	3.11E 00
0.300	68.73	3.82E 01	2.51E 01	5.56E 02	3.66E 02	7.48E 01	6.46E 01	4.40E 01	3.73E 01	3.02E 00	2.56E 00
0.300	63.00	2.93E 01	2.00E 01	4.65E 02	3.18E 02	7.04E 01	6.16E 01	4.12E 01	3.54E 01	2.59E 00	2.23E 00
0.300	58.15	2.47E 01	1.72E 01	4.25E 02	2.95E 02	6.82E 01	6.01E 01	3.98E 01	3.44E 01	2.32E 00	2.00E 00
0.300	54.00	2.22E 01	1.55E 01	4.10E 02	2.88E 02	6.74E 01	5.95E 01	3.93E 01	3.42E 01	2.12E 00	1.84E 00
0.300	50.40	2.07E 01	1.46E 01	4.11E 02	2.89E 02	6.75E 01	5.97E 01	3.94E 01	3.43E 01	1.99E 00	1.73E 00
0.300	47.25	2.00E 01	1.40E 01	4.23E 02	2.97E 02	6.82E 01	6.02E 01	3.99E 01	3.47E 01	1.89E 00	1.64E 00
0.300	44.47	1.99E 01	1.39E 01	4.48E 02	3.12E 02	6.96E 01	6.13E 01	4.09E 01	3.54E 01	1.82E 00	1.58E 00
0.300	42.00	2.03E 01	1.40E 01	4.82E 02	3.33E 02	7.14E 01	6.27E 01	4.21E 01	3.64E 01	1.77E 00	1.53E 00
0.300	39.79	2.11E 01	1.44E 01	5.30E 02	3.61E 02	7.38E 01	6.46E 01	4.37E 01	3.76E 01	1.74E 00	1.50E 00
0.300	37.80	2.24E 01	1.50E 01	5.94E 02	3.97E 02	7.68E 01	6.67E 01	4.56E 01	3.90E 01	1.72E 00	1.48E 00
0.300	34.36	2.70E 01	1.78E 01	7.85E 02	5.00E 02	8.46E 01	7.23E 01	5.07E 01	4.27E 01	1.74E 00	1.47E 00
0.300	31.50	3.58E 01	2.13E 01	1.14E 03	6.69E 02	9.61E 01	8.00E 01	5.83E 01	4.77E 01	1.84E 00	1.50E 00
0.400	84.00	8.15E 01	4.73E 01	9.71E 02	5.63E 02	9.07E 01	7.50E 01	5.42E 01	4.39E 01	4.55E 00	3.69E 00
0.400	75.60	4.27E 01	2.80E 01	5.65E 02	3.71E 02	7.53E 01	6.49E 01	4.42E 01	3.74E 01	3.34E 00	2.83E 00
0.400	68.73	3.00E 01	2.07E 01	4.36E 02	3.01E 02	6.88E 01	6.04E 01	4.01E 01	3.46E 01	2.76E 00	2.38E 00
0.400	63.00	2.41E 01	1.70E 01	3.82E 02	2.70E 02	6.58E 01	5.82E 01	3.82E 01	3.32E 01	2.41E 00	2.09E 00
0.400	58.15	2.10E 01	1.50E 01	3.62E 02	2.59E 02	6.45E 01	5.73E 01	3.75E 01	3.27E 01	2.18E 00	1.90E 00
0.400	54.00	1.94E 01	1.39E 01	3.59E 02	2.58E 02	6.44E 01	5.73E 01	3.74E 01	3.28E 01	2.02E 00	1.77E 00
0.400	50.40	1.86E 01	1.34E 01	3.70E 02	2.65E 02	6.51E 01	5.79E 01	3.79E 01	3.32E 01	1.91E 00	1.67E 00
0.400	47.25	1.85E 01	1.32E 01	3.91E 02	2.79E 02	6.64E 01	5.89E 01	3.88E 01	3.39E 01	1.83E 00	1.60E 00
0.400	44.47	1.89E 01	1.33E 01	4.24E 02	2.99E 02	6.83E 01	6.05E 01	4.01E 01	3.49E 01	1.78E 00	1.55E 00
0.400	42.00	1.97E 01	1.37E 01	4.70E 02	3.27E 02	7.08E 01	6.24E 01	4.17E 01	3.62E 01	1.75E 00	1.52E 00
0.400	39.79	2.12E 01	1.45E 01	5.32E 02	3.63E 02	7.39E 01	6.47E 01	4.38E 01	3.77E 01	1.74E 00	1.50E 00
0.400	37.80	2.33E 01	1.55E 01	6.15E 02	4.10E 02	7.78E 01	6.75E 01	4.63E 01	3.96E 01	1.75E 00	1.50E 00
0.400	34.36	3.03E 01	1.89E 01	8.81E 02	5.49E 02	8.80E 01	7.48E 01	5.31E 01	4.43E 01	1.82E 00	1.52E 00
0.400	31.50	4.51E 01	2.51E 01	1.43E 03	7.97E 02	1.04E 02	8.50E 01	6.35E 01	5.11E 01	2.00E 00	1.61E 00
0.500	84.00	6.04E 01	3.77E 01	7.20E 02	4.49E 02	8.18E 01	6.94E 01	4.85E 01	4.03E 01	4.07E 00	3.38E 00
0.500	75.60	3.51E 01	2.34E 01	4.64E 02	3.16E 02	7.03E 01	6.14E 01	4.11E 01	3.52E 01	3.10E 00	2.66E 00
0.500	68.73	2.59E 01	1.83E 01	3.77E 02	2.67E 02	6.54E 01	5.79E 01	3.80E 01	3.30E 01	2.61E 00	2.27E 00
0.500	63.00	2.16E 01	1.55E 01	3.42E 02	2.47E 02	6.33E 01	5.64E 01	3.67E 01	3.21E 01	2.31E 00	2.02E 00
0.500	58.15	1.94E 01	1.41E 01	3.34E 02	2.42E 02	6.28E 01	5.61E 01	3.64E 01	3.19E 01	2.12E 00	1.86E 00

1.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.500	54.00	1.84E 01	1.34E 01	3.41E 02	2.47E 02	6.33E 01	5.65E 01	3.67E 01	3.23E 01	1.98E 00	1.74E 00
0.500	50.40	1.82E 01	1.31E 01	3.61E 02	2.60E 02	6.46E 01	5.76E 01	3.76E 01	3.30E 01	1.90E 00	1.66E 00
0.500	47.25	1.85E 01	1.32E 01	3.92E 02	2.80E 02	6.65E 01	5.91E 01	3.89E 01	3.40E 01	1.84E 00	1.61E 00
0.500	44.47	1.95E 01	1.37E 01	4.39E 02	3.09E 02	6.91E 01	6.12E 01	4.07E 01	3.54E 01	1.81E 00	1.57E 00
0.500	42.00	2.11E 01	1.45E 01	5.01E 02	3.46E 02	7.24E 01	6.37E 01	4.29E 01	3.71E 01	1.80E 00	1.56E 00
0.500	39.79	2.35E 01	1.58E 01	5.90E 02	3.97E 02	7.66E 01	6.68E 01	4.56E 01	3.91E 01	1.81E 00	1.56E 00
0.500	37.80	2.69E 01	1.75E 01	7.13E 02	4.64E 02	8.19E 01	7.05E 01	4.90E 01	4.16E 01	1.85E 00	1.57E 00
0.500	34.36	3.96E 01	2.33E 01	1.15E 03	6.77E 02	9.66E 01	8.04E 01	5.87E 01	4.81E 01	2.02E 00	1.65E 00
0.500	31.50	7.31E 01	3.54E 01	2.32E 03	1.12E 03	1.23E 02	9.57E 01	7.58E 01	5.81E 01	2.39E 00	1.83E 00
0.600	84.00	4.97E 01	3.24E 01	5.92E 02	3.85E 02	7.65E 01	6.58E 01	4.50E 01	3.80E 01	3.78E 00	3.19E 00
0.600	75.60	3.09E 01	2.16E 01	4.09E 02	2.85E 02	6.73E 01	5.93E 01	3.91E 01	3.39E 01	2.96E 00	2.56E 00
0.600	68.73	2.38E 01	1.71E 01	3.46E 02	2.49E 02	6.35E 01	5.66E 01	3.68E 01	3.22E 01	2.53E 00	2.21E 00
0.600	63.00	2.05E 01	1.49E 01	3.25E 02	2.36E 02	6.22E 01	5.56E 01	3.60E 01	3.16E 01	2.27E 00	1.99E 00
0.600	58.15	1.89E 01	1.38E 01	3.26E 02	2.38E 02	6.23E 01	5.57E 01	3.61E 01	3.18E 01	2.10E 00	1.85E 00
0.600	54.00	1.85E 01	1.34E 01	3.43E 02	2.49E 02	6.34E 01	5.67E 01	3.69E 01	3.24E 01	1.99E 00	1.75E 00
0.600	50.40	1.88E 01	1.35E 01	3.73E 02	2.69E 02	6.54E 01	5.82E 01	3.82E 01	3.35E 01	1.92E 00	1.69E 00
0.600	47.25	1.98E 01	1.41E 01	4.19E 02	2.97E 02	6.81E 01	6.04E 01	4.00E 01	3.49E 01	1.89E 00	1.65E 00
0.600	44.47	2.16E 01	1.50E 01	4.87E 02	3.38E 02	7.17E 01	6.31E 01	4.24E 01	3.68E 01	1.89E 00	1.63E 00
0.600	42.00	2.44E 01	1.65E 01	5.81E 02	3.92E 02	7.63E 01	6.65E 01	4.54E 01	3.90E 01	1.91E 00	1.64E 00
0.600	39.79	2.86E 01	1.86E 01	7.19E 02	4.68E 02	8.21E 01	7.07E 01	4.92E 01	4.18E 01	1.96E 00	1.66E 00
0.600	37.80	3.51E 01	2.17E 01	9.29E 02	5.74E 02	8.97E 01	7.60E 01	5.42E 01	4.52E 01	2.05E 00	1.71E 00
0.600	34.36	6.33E 01	3.29E 01	1.84E 03	9.57E 02	1.13E 02	9.06E 01	6.97E 01	5.48E 01	2.40E 00	1.88E 00
0.600	31.50	1.95E 02	6.38E 01	6.19E 03	2.03E 03	1.71E 02	1.17E 02	1.08E 02	7.22E 01	3.39E 00	2.27E 00
0.700	84.00	4.35E 01	2.91E 01	5.18E 02	3.46E 02	7.30E 01	6.34E 01	4.28E 01	3.65E 01	3.60E 00	3.06E 00
0.700	75.60	2.85E 01	2.02E 01	3.77E 02	2.67E 02	6.54E 01	5.80E 01	3.80E 01	3.31E 01	2.87E 00	2.50E 00
0.700	68.73	2.28E 01	1.65E 01	3.31E 02	2.40E 02	6.26E 01	5.59E 01	3.62E 01	3.18E 01	2.49E 00	2.18E 00
0.700	63.00	2.02E 01	1.48E 01	3.21E 02	2.34E 02	6.19E 01	5.55E 01	3.59E 01	3.16E 01	2.26E 00	1.99E 00
0.700	58.15	1.93E 01	1.41E 01	3.32E 02	2.42E 02	6.27E 01	5.61E 01	3.64E 01	3.21E 01	2.12E 00	1.86E 00
0.700	54.00	1.95E 01	1.41E 01	3.60E 02	2.61E 02	6.46E 01	5.76E 01	3.77E 01	3.31E 01	2.03E 00	1.79E 00
0.700	50.40	2.05E 01	1.46E 01	4.06E 02	2.89E 02	6.74E 01	5.98E 01	3.95E 01	3.46E 01	1.99E 00	1.74E 00
0.700	47.25	2.24E 01	1.57E 01	4.75E 02	3.31E 02	7.11E 01	6.27E 01	4.20E 01	3.65E 01	1.99E 00	1.72E 00
0.700	44.47	2.57E 01	1.74E 01	5.78E 02	3.91E 02	7.62E 01	6.65E 01	4.53E 01	3.90E 01	2.02E 00	1.73E 00
0.700	42.00	3.08E 01	2.00E 01	7.33E 02	4.75E 02	8.27E 01	7.11E 01	4.96E 01	4.20E 01	2.08E 00	1.77E 00
0.700	39.79	3.90E 01	2.38E 01	9.79E 02	5.99E 02	9.14E 01	7.71E 01	5.53E 01	4.59E 01	2.20E 00	1.83E 00
0.700	37.80	5.33E 01	2.98E 01	1.41E 03	7.83E 02	1.04E 02	8.48E 01	6.33E 01	5.10E 01	2.39E 00	1.93E 00
0.700	34.36	1.48E 02	5.69E 01	4.31E 03	1.66E 03	1.52E 02	1.09E 02	9.47E 01	6.71E 01	3.25E 00	2.31E 00
0.700	31.50		2.04E 02		6.48E 03		1.74E 02		1.09E 02		3.44E 00
0.800	84.00	3.97E 01	2.71E 01	4.72E 02	3.22E 02	7.07E 01	6.19E 01	4.14E 01	3.55E 01	3.47E 00	2.99E 00
0.800	75.60	2.72E 01	1.95E 01	3.60E 02	2.58E 02	6.45E 01	5.73E 01	3.74E 01	3.26E 01	2.83E 00	2.47E 00
0.800	68.73	2.25E 01	1.64E 01	3.27E 02	2.38E 02	6.24E 01	5.58E 01	3.61E 01	3.18E 01	2.48E 00	2.18E 00
0.800	63.00	2.06E 01	1.51E 01	3.27E 02	2.39E 02	6.24E 01	5.59E 01	3.62E 01	3.19E 01	2.28E 00	2.01E 00
0.800	58.15	2.04E 01	1.48E 01	3.50E 02	2.54E 02	6.39E 01	5.71E 01	3.72E 01	3.28E 01	2.17E 00	1.90E 00
0.800	54.00	2.13E 01	1.52E 01	3.94E 02	2.82E 02	6.66E 01	5.93E 01	3.91E 01	3.42E 01	2.11E 00	1.85E 00
0.800	50.40	2.34E 01	1.64E 01	4.64E 02	3.25E 02	7.05E 01	6.23E 01	4.16E 01	3.62E 01	2.10E 00	1.83E 00
0.800	47.25	2.70E 01	1.83E 01	5.71E 02	3.87E 02	7.58E 01	6.62E 01	4.51E 01	3.88E 01	2.13E 00	1.83E 00
0.800	44.47	3.30E 01	2.13E 01	7.42E 02	4.80E 02	8.30E 01	7.14E 01	4.99E 01	4.22E 01	2.22E 00	1.88E 00
0.800	42.00	4.31E 01	2.61E 01	1.03E 03	6.21E 02	9.29E 01	7.81E 01	5.63E 01	4.66E 01	2.37E 00	1.96E 00
0.800	39.79	6.20E 01	3.38E 01	1.56E 03	8.50E 02	1.07E 02	8.70E 01	6.57E 01	5.25E 01	2.61E 00	2.09E 00
0.800	37.80	1.04E 02	4.76E 01	2.76E 03	1.26E 03	1.30E 02	9.96E 01	8.08E 01	6.07E 01	3.05E 00	2.29E 00
0.800	34.36	1.80E 03	1.50E 02	5.23E 04	4.37E 03	3.52E 02	1.52E 02	2.26E 02	9.52E 01	7.76E 00	3.27E 00
0.900	84.00	3.74E 01	2.58E 01	4.45E 02	3.08E 02	6.93E 01	6.09E 01	4.05E 01	3.49E 01	3.40E 00	2.93E 00
0.900	75.60	2.67E 01	1.92E 01	3.54E 02	2.54E 02	6.41E 01	5.70E 01	3.72E 01	3.25E 01	2.81E 00	2.46E 00
0.900	68.73	2.29E 01	1.66E 01	3.33E 02	2.42E 02	6.28E 01	5.61E 01	3.64E 01	3.20E 01	2.50E 00	2.20E 00
0.900	63.00	2.17E 01	1.57E 01	3.44E 02	2.50E 02	6.35E 01	5.68E 01	3.70E 01	3.25E 01	2.33E 00	2.05E 00
0.900	58.15	2.22E 01	1.59E 01	3.81E 02	2.74E 02	6.59E 01	5.87E 01	3.86E 01	3.38E 01	2.24E 00	1.97E 00
0.900	54.00	2.42E 01	1.70E 01	4.49E 02	3.16E 02	6.97E 01	6.17E 01	4.11E 01	3.58E 01	2.22E 00	1.93E 00
0.900	50.40	2.81E 01	1.91E 01	5.57E 02	3.79E 02	7.52E 01	6.58E 01	4.47E 01	3.85E 01	2.25E 00	1.94E 00
0.900	47.25	3.47E 01	2.25E 01	7.34E 02	4.76E 02	8.28E 01	7.12E 01	4.97E 01	4.21E 01	2.35E 00	1.99E 00
0.900	44.47	4.67E 01	2.81E 01	1.05E 03	6.32E 02	9.37E 01	7.86E 01	5.69E 01	4.69E 01	2.53E 00	2.07E 00
0.900	42.00	7.07E 01	3.77E 01	1.68E 03	8.97E 02	1.10E 02	8.87E 01	6.76E 01	5.36E 01	2.84E 00	2.25E 00
0.900	39.79	1.32E 02	5.61E 01	3.31E 03	1.41E 03	1.39E 02	1.04E 02	8.63E 01	6.33E 01	3.43E 00	2.52E 00
0.900	37.80	4.08E 02	9.76E 01	1.08E 04	2.64E 03	2.07E 02	1.28E 02	1.31E 02	7.95E 01	4.95E 00	3.00E 00
0.900	34.36		5.91E 03		1.72E 05		5.25E 02		3.39E 02		1.16E 01
1.000	84.00	3.62E 01	2.52E 01	4.31E 02	3.00E 02	6.86E 01	6.04E 01	4.01E 01	3.46E 01	3.36E 00	2.91E 00
1.000	75.60	2.70E 01	1.94E 01	3.57E 02	2.57E 02	6.43E 01	5.72E 01	3.73E 01	3.27E 01	2.82E 00	2.47E 00
1.000	68.73	2.39E 01	1.73E 01	3.48E 02	2.52E 02	6.37E 01	5.69E 01	3.71E 01	3.26E 01	2.55E 00	2.24E 00
1.000	63.00	2.34E 01	1.69E 01	3.71E 02	2.67E 02	6.53E 01	5.82E 01	3.82E 01	3.35E 01	2.40E 00	2.11E 00
1.000	58.15	2.50E 01	1.77E 01	4.30E 02	3.04E 02	6.87E 01	6.09E 01	4.05E 01	3.53E 01	2.35E 00	2.05E 00
1.000	54.00	2.89E 01	1.97E 01	5.33E 02	3.65E 02	7.41E 01	6.49E 01	4.40E 01	3.80E 01	2.38E 00	2.05E 00
1.000	50.40	3.58E 01	2.33E 01	7.10E 02	4.63E 02	8.18E 01	7.06E 01	4.91E 01	4.17E 01	2.47E 00	2.10E 00
1.000	47.25	4.84E 01	2.95E 01	1.03E 03	6.25E 02	9.32E 01	7.83E 01	5.65E 01	4.69E 01	2.67E 00	2.21E 00
1.000	44.47	7.72E 01	4.08E 01	1.74E 03	9.17E 02	1.11E 02	8.94E 01	6.84E 01	5.40E 01	3.04E 00	2.40E 00
1.000	42.00	1.57E 02	6.38E 01	3.74E 03	1.52E 03	1.45E 02	1.06E 02	9.01E 01	6.51E 01	3.78E 00	2.73E 00
1.000	39.79	6.88E 02	1.26E 02	1.73E 04	3.17E 03	2.43E 02	1.37E 02	1.54E 02	8.50E 01	6.14E 00	3.38E 00
1.000	37.80		4.71E 02		1.25E 04		2.17E 02		1.38E 02		5.20E 00

1.40% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.200	117.60	3.88E 01	2.72E 01	3.30E 02	2.32E 02	6.21E 01	5.47E 01	3.52E 01	3.03E 01	4.14E 00	3.56E 00
0.200	105.84	2.31E 01	1.72E 01	2.19E 02	1.63E 02	5.37E 01	4.84E 01	2.99E 01	2.63E 01	3.16E 00	2.79E 00
0.200	96.22	1.66E 01	1.28E 01	1.73E 02	1.33E 02	4.95E 01	4.50E 01	2.72E 01	2.43E 01	2.62E 00	2.33E 00
0.200	88.20	1.32E 01	1.03E 01	1.49E 02	1.17E 02	4.70E 01	4.31E 01	2.57E 01	2.31E 01	2.27E 00	2.03E 00
0.200	81.42	1.10E 01	8.73E 00	1.35E 02	1.07E 02	4.55E 01	4.18E 01	2.48E 01	2.23E 01	2.02E 00	1.82E 00
0.200	75.60	9.64E 00	7.68E 00	1.27E 02	1.02E 02	4.45E 01	4.10E 01	2.42E 01	2.19E 01	1.83E 00	1.66E 00
0.200	70.56	8.65E 00	6.94E 00	1.23E 02	9.83E 01	4.40E 01	4.06E 01	2.39E 01	2.17E 01	1.69E 00	1.53E 00
0.200	66.15	7.94E 00	6.39E 00	1.20E 02	9.66E 01	4.37E 01	4.04E 01	2.38E 01	2.16E 01	1.57E 00	1.43E 00
0.200	62.26	7.44E 00	5.99E 00	1.19E 02	9.62E 01	4.36E 01	4.03E 01	2.38E 01	2.16E 01	1.48E 00	1.34E 00
0.200	58.80	7.06E 00	5.69E 00	1.20E 02	9.68E 01	4.37E 01	4.04E 01	2.39E 01	2.17E 01	1.40E 00	1.28E 00
0.200	55.71	6.78E 00	5.47E 00	1.22E 02	9.82E 01	4.40E 01	4.07E 01	2.40E 01	2.19F 01	1.34E 00	1.22E 00
0.200	52.92	6.59E 00	5.31E 00	1.25E 02	1.00E 02	4.43E 01	4.10E 01	2.43E 01	2.21E 01	1.29E 00	1.17E 00
0.200	48.11	6.39E 00	5.13E 00	1.33E 02	1.07E 02	4.54E 01	4.19E 01	2.51E 01	2.28E 01	1.21E 00	1.10E 00
0.200	44.10	6.37E 00	5.10E 00	1.45E 02	1.16E 02	4.68E 01	4.32E 01	2.60E 01	2.36E 01	1.15E 00	1.04E 00
0.200	40.71	6.52E 00	5.17E 00	1.60E 02	1.27E 02	4.85E 01	4.47E 01	2.72E 01	2.46E 01	1.11E 00	1.00E 00
0.200	37.80	6.82E 00	5.36E 00	1.80E 02	1.42E 02	5.06E 01	4.65E 01	2.86E 01	2.58E 01	1.08E 00	9.76E-01
0.300	117.60	2.86E 01	2.10E 01	2.43E 02	1.79E 02	5.58E 01	4.99E 01	3.11E 01	2.73E 01	3.66E 00	3.21E 00
0.300	105.84	1.82E 01	1.40E 01	1.72E 02	1.32E 02	4.94E 01	4.49E 01	2.71E 01	2.42E 01	2.87E 00	2.56E 00
0.300	96.22	1.35E 01	1.06E 01	1.41E 02	1.11E 02	4.61E 01	4.22E 01	2.51E 01	2.25E 01	2.41E 00	2.17E 00
0.300	88.20	1.10E 01	8.75E 00	1.24E 02	9.92E 01	4.41E 01	4.07E 01	2.39E 01	2.16E 01	2.11E 00	1.91E 00
0.300	81.42	9.39E 00	7.55E 00	1.15E 02	9.27E 01	4.30E 01	3.97E 01	2.32E 01	2.11E 01	1.89E 00	1.72E 00
0.300	75.60	8.35E 00	6.75E 00	1.10E 02	8.93E 01	4.24E 01	3.92E 01	2.29E 01	2.08E 01	1.73E 00	1.57E 00
0.300	70.56	7.62E 00	6.19E 00	1.08E 02	8.77E 01	4.21E 01	3.90E 01	2.28E 01	2.07E 01	1.61E 00	1.46E 00
0.300	66.15	7.11E 00	5.79E 00	1.08E 02	8.75E 01	4.20E 01	3.90E 01	2.29E 01	2.08E 01	1.51E 00	1.37E 00
0.300	62.26	6.76E 00	5.50E 00	1.09E 02	8.84E 01	4.22E 01	3.92E 01	2.29E 01	2.09E 01	1.43E 00	1.30E 00
0.300	58.80	6.51E 00	5.29E 00	1.11E 02	9.00E 01	4.25E 01	3.95E 01	2.31E 01	2.11E 01	1.36E 00	1.24E 00
0.300	55.71	6.34E 00	5.16E 00	1.14E 02	9.26E 01	4.30E 01	3.99E 01	2.35E 01	2.14E 01	1.31E 00	1.19E 00
0.300	52.92	6.26E 00	5.08E 00	1.18E 02	9.60E 01	4.36E 01	4.04E 01	2.39E 01	2.18E 01	1.26E 00	1.15E 00
0.300	48.11	6.23E 00	5.04E 00	1.30E 02	1.05E 02	4.50E 01	4.17E 01	2.49E 01	2.27E 01	1.20E 00	1.09E 00
0.300	44.10	6.36E 00	5.10E 00	1.44E 02	1.16E 02	4.68E 01	4.32E 01	2.61E 01	2.37E 01	1.15E 00	1.04E 00
0.300	40.71	6.70E 00	5.32E 00	1.65E 02	1.31E 02	4.90E 01	4.51E 01	2.75E 01	2.50E 01	1.12E 00	1.02E 00
0.300	37.80	7.24E 00	5.67E 00	1.92E 02	1.50E 02	5.17E 01	4.74E 01	2.93E 01	2.65E 01	1.11E 00	1.00E 00
0.400	117.60	2.34E 01	1.77E 01	1.99E 02	1.51E 02	5.20E 01	4.70E 01	2.88E 01	2.54E 01	3.38E 00	2.99E 00
0.400	105.84	1.56E 01	1.22E 01	1.47E 02	1.15E 02	4.68E 01	4.28E 01	2.55E 01	2.29E 01	2.70E 00	2.42E 00
0.400	96.22	1.20E 01	9.52E 00	1.24E 02	9.90E 01	4.41E 01	4.06E 01	2.39E 01	2.15E 01	2.30E 00	2.07E 00
0.400	88.20	9.89E 00	7.97E 00	1.12E 02	9.04E 01	4.26E 01	3.94E 01	2.30E 01	2.08E 01	2.03E 00	1.83E 00
0.400	81.42	8.62E 00	7.00E 00	1.06E 02	8.60E 01	4.17E 01	3.87E 01	2.25E 01	2.04E 01	1.83E 00	1.66E 00
0.400	75.60	7.80E 00	6.36E 00	1.03E 02	8.41E 01	4.14E 01	3.84E 01	2.23E 01	2.03E 01	1.69E 00	1.54E 00
0.400	70.56	7.24E 00	5.91E 00	1.03E 02	8.38E 01	4.13E 01	3.84E 01	2.23E 01	2.04E 01	1.58E 00	1.44E 00
0.400	66.15	6.86E 00	5.60E 00	1.04E 02	8.47E 01	4.15E 01	3.86E 01	2.25E 01	2.05E 01	1.49E 00	1.36E 00
0.400	62.26	6.62E 00	5.41E 00	1.06E 02	8.69E 01	4.19E 01	3.90E 01	2.28E 01	2.08E 01	1.42E 00	1.30E 00
0.400	58.80	6.47E 00	5.28E 00	1.10E 02	8.98E 01	4.25E 01	3.95F 01	2.32E 01	2.12E 01	1.36E 00	1.24E 00
0.400	55.71	6.41E 00	5.22E 00	1.15E 02	9.37E 01	4.32E 01	4.01E 01	2.37E 01	2.16E 01	1.32E 00	1.20E 00
0.400	52.92	6.42E 00	5.21E 00	1.21E 02	9.85E 01	4.40E 01	4.08E 01	2.42E 01	2.21E 01	1.28E 00	1.17E 00
0.400	48.11	6.62E 00	5.33E 00	1.38E 02	1.11E 02	4.60E 01	4.26E 01	2.56E 01	2.33E 01	1.23E 00	1.12E 00
0.400	44.10	7.05E 00	5.62E 00	1.60E 02	1.27E 02	4.86E 01	4.48E 01	2.73E 01	2.48E 01	1.20E 00	1.09E 00
0.400	40.71	7.75E 00	6.08E 00	1.90E 02	1.49E 02	5.16E 01	4.74E 01	2.93E 01	2.65E 01	1.19E 00	1.08E 00
0.400	37.80	8.77E 00	6.76E 00	2.32E 02	1.79E 02	5.54E 01	5.05E 01	3.18E 01	2.86E 01	1.20E 00	1.08E 00
0.500	117.60	2.05E 01	1.57E 01	1.74E 02	1.34E 02	4.96E 01	4.51E 01	2.73E 01	2.43E 01	3.21E 00	2.85E 00
0.500	105.84	1.41E 01	1.12E 01	1.33E 02	1.06E 02	4.52E 01	4.15E 01	2.45E 01	2.21E 01	2.60E 00	2.34E 00
0.500	96.22	1.11E 01	8.90E 00	1.15E 02	9.25E 01	4.29E 01	3.97E 01	2.32E 01	2.10E 01	2.23E 00	2.02E 00
0.500	88.20	9.34E 00	7.58E 00	1.06E 02	8.59E 01	4.17E 01	3.87E 01	2.25E 01	2.04E 01	1.98E 00	1.80E 00
0.500	81.42	8.29E 00	6.76E 00	1.02E 02	8.30E 01	4.12E 01	3.83E 01	2.22E 01	2.02E 01	1.81E 00	1.65E 00
0.500	75.60	7.63E 00	6.24E 00	1.01E 02	8.25E 01	4.11E 01	3.82E 01	2.22E 01	2.02E 01	1.68E 00	1.53E 00
0.500	70.56	7.20E 00	5.89E 00	1.02E 02	8.35E 01	4.13E 01	3.84E 01	2.23E 01	2.04E 01	1.58E 00	1.44E 00
0.500	66.15	6.94E 00	5.68E 00	1.05E 02	8.58E 01	4.17E 01	3.88E 01	2.27E 01	2.07E 01	1.50E 00	1.37E 00
0.500	62.26	6.81E 00	5.56E 00	1.09E 02	8.93E 01	4.24E 01	3.94E 01	2.31E 01	2.12E 01	1.44E 00	1.32E 00
0.500	58.80	6.77E 00	5.52E 00	1.15E 02	9.38E 01	4.32E 01	4.01E 01	2.37E 01	2.17E 01	1.39E 00	1.27E 00
0.500	55.71	6.83E 00	5.54E 00	1.23E 02	9.95E 01	4.42E 01	4.10E 01	2.44E 01	2.22E 01	1.36E 00	1.24E 00
0.500	52.92	6.97E 00	5.64E 00	1.32E 02	1.07E 02	4.53E 01	4.20E 01	2.51E 01	2.29E 01	1.33E 00	1.21E 00
0.500	48.11	7.49E 00	5.98E 00	1.56E 02	1.24E 02	4.81E 01	4.44E 01	2.73E 01	2.45E 01	1.30E 00	1.18E 00
0.500	44.10	8.36E 00	6.57E 00	1.89E 02	1.49E 02	5.16E 01	4.74E 01	2.93E 01	2.65E 01	1.29E 00	1.17E 00
0.500	40.71	9.69E 00	7.45E 00	2.38E 02	1.83E 02	5.59E 01	5.09E 01	3.21E 01	2.89E 01	1.31E 00	1.17E 00
0.500	37.80	1.17E 01	8.78E 00	3.11E 02	2.32E 02	6.14E 01	5.54E 01	3.57E 01	3.18E 01	1.35E 00	1.20E 00
0.600	117.60	1.86E 01	1.45E 01	1.58E 02	1.23E 02	4.80E 01	4.38E 01	2.63E 01	2.35E 01	3.09E 00	2.76E 00
0.600	105.84	1.32E 01	1.05E 01	1.25E 02	9.95E 01	4.42E 01	4.07E 01	2.39E 01	2.16E 01	2.53E 00	2.28E 00
0.600	96.22	1.06E 01	8.56E 00	1.10E 02	8.90E 01	4.23E 01	3.91E 01	2.28E 01	2.07E 01	2.19E 00	1.99E 00
0.600	88.20	9.10E 00	7.41E 00	1.03E 02	8.40E 01	4.14E 01	3.84E 01	2.23E 01	2.03E 01	1.97E 00	1.79E 00
0.600	81.42	8.23E 00	6.73E 00	1.01E 02	8.26E 01	4.11E 01	3.82E 01	2.22E 01	2.03E 01	1.81E 00	1.65E 00
0.600	75.60	7.70E 00	6.31E 00	1.02E 02	8.35E 01	4.13E 01	3.84E 01	2.24E 01	2.04E 01	1.69E 00	1.54F 00
0.600	70.56	7.40E 00	6.06E 00	1.05F 02	8.59E 01	4.17E 01	3.88E 01	2.27E 01	2.07E 01	1.60E 00	1.46F 00
0.600	66.15	7.27E 00	5.94E 00	1.10E 02	8.98E 01	4.25E 01	3.95E 01	2.32E 01	2.12F 01	1.53F 00	1.40F 00
0.600	62.26	7.27E 00	5.92E 00	1.17E 02	9.51E 01	4.34E 01	4.03E 01	2.39E 01	2.18E 01	1.49F 00	1.36E 00
0.600	58.80	7.38E 00	5.99E 00	1.26E 02	1.02E 02	4.46E 01	4.13E 01	2.46F 01	2.25E 01	1.45E 00	1.32E 00
0.600	55.71	7.61E 00	6.13F 00	1.37E 02	1.10E 02	4.59E 01	4.25E 01	2.55E 01	2.33E 01	1.42E 00	1.30E 00
0.600	52.92	7.95E 00	6.37E 00	1.50E 02	1.20E 02	4.75E 01	4.39E 01	2.66E 01	2.42F 01	1.41F 00	1.28F 00
0.600	48.11	8.97E 00	7.07E 00	1.87E 02	1.47E 02	5.13F 01	4.71E 01	2.91E 01	2.64E 01	1.40F 00	1.27E 00
0.600	44.10	1.07E 01	8.20E 00	2.42F 02	1.86E 02	5.62E 01	5.12E 01	3.24E 01	2.91E 01	1.43E 00	1.28E 00
0.600	40.71	1.34E 01	9.93E 00	3.29E 02	2.44E 02	6.26E 01	5.64E 01	3.65E 01	3.24E 01	1.49E 00	1.32E 00
0.600	37.80	1.80E 01	1.27E 01	4.77E 02	3.37E 02	7.13E 01	6.31E 01	4.22E 01	3.68E 01	1.59E 00	1.39E 00
0.700	117.60	1.74E 01	1.37E 01	1.48E 02	1.16E 02	4.69E 01	4.30E 01	2.56E 01	2.29E 01	3.01F 00	2.70E 00
0.700	105.84	1.27E 01	1.02E 01	1.20E 02	9.61E 01	4.35E 01	4.02E 01	2.36E 01	2.13E 01	2.49E 00	2.26E 00
0.700	96.22	1.04E 01	8.42E 00	1.08E 02	8.75E 01	4.20E 01	3.89E 01	2.27E 01	2.06E 01	2.18E 00	1.98E 00
0.700	88.20	9.10E 00	7.42E 00	1.03E 02	8.41E 01	4.14E 01	3.85E 01	2.24E 01	2.04E 01	1.97E 00	1.80E 00
0.700	81.42	8.38E 00	6.85E 00	1.03E 02	8.41E 01	4.14E 01	3.85E 01	2.24E 01	2.05E 01	1.83E 00	1.67E 00
0.700	75.60	8.00E 00	6.54E 00	1.06E 02	8.65E 01	4.19E 01	3.89E 01	2.28E 01	2.08E 01	1.72E 00	1.57E 00
0.700	70.56	7.84E 00	6.40E 00	1.11E 02	9.07E 01	4.26E 01	3.96E 01	2.33E 01	2.13E 01	1.65E 00	1.50E 00

1.40 % ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.700	66.15	7.85E 00	6.34E 00	1.19E 02	9.65E 01	4.37E 01	4.05E 01	2.40E 01	2.20E 01	1.59E 00	1.45E 00
0.700	62.26	8.03E 00	6.50E 00	1.29E 02	1.04E 02	4.50E 01	4.17E 01	2.49E 01	2.28E 01	1.55E 00	1.42E 00
0.700	58.80	8.35E 00	6.72E 00	1.42E 02	1.14E 02	4.66E 01	4.31E 01	2.60E 01	2.37E 01	1.53E 00	1.39E 00
0.700	55.71	8.83E 00	7.05E 00	1.59E 02	1.27E 02	4.84E 01	4.47E 01	2.72E 01	2.48E 01	1.52E 00	1.38E 00
0.700	52.92	9.49E 00	7.50E 00	1.79E 02	1.42E 02	5.06E 01	4.65E 01	2.87E 01	2.60E 01	1.52E 00	1.37E 00
0.700	48.11	1.15E 01	8.83E 00	2.38E 02	1.84E 02	5.60E 01	5.10E 01	3.22E 01	2.89E 01	1.55E 00	1.39E 00
0.700	44.10	1.49E 01	1.10E 01	3.38E 02	2.50E 02	6.32E 01	5.69E 01	3.69E 01	3.28E 01	1.63E 00	1.45E 00
0.700	40.71	2.11E 01	1.47E 01	5.18E 02	3.61E 02	7.34E 01	6.47E 01	4.36E 01	3.79E 01	1.78E 00	1.54E 00
0.700	37.80	3.44E 01	2.16E 01	9.09E 02	5.73E 02	8.91E 01	7.60E 01	5.39E 01	4.53E 01	2.04E 00	1.71E 00
0.800	117.60	1.65E 01	1.31E 01	1.41E 02	1.12E 02	4.62E 01	4.24E 01	2.52E 01	2.26E 01	2.96E 00	2.66E 00
0.800	105.84	1.24E 01	9.99E 00	1.17E 02	9.44E 01	4.33E 01	4.00E 01	2.34E 01	2.12E 01	2.68E 00	2.75E 00
0.800	96.22	1.04E 01	8.43E 00	1.08E 02	8.77E 01	4.21E 01	3.90E 01	2.27E 01	2.07E 01	2.19E 00	1.99E 00
0.800	88.20	9.29E 00	7.58E 00	1.05E 02	8.60E 01	4.18E 01	3.88E 01	2.26E 01	2.06E 01	1.99E 00	1.82E 00
0.800	81.42	8.71E 00	7.11E 00	1.07E 02	8.74E 01	4.20E 01	3.91E 01	2.29E 01	2.09E 01	1.86E 00	1.70E 00
0.800	75.60	8.49E 00	6.93E 00	1.12E 02	9.16E 01	4.28E 01	3.98E 01	2.34E 01	2.14E 01	1.77E 00	1.62E 00
0.800	70.56	8.50E 00	6.91E 00	1.21E 02	9.80E 01	4.39E 01	4.08E 01	2.42E 01	2.21E 01	1.71E 00	1.56E 00
0.800	66.15	8.73E 00	7.06E 00	1.32E 02	1.07E 02	4.54E 01	4.21E 01	2.52E 01	2.30E 01	1.67E 00	1.52E 00
0.800	62.26	9.16E 00	7.35E 00	1.47E 02	1.18E 02	4.72E 01	4.36E 01	2.64E 01	2.40E 01	1.64E 00	1.50E 00
0.800	58.80	9.80E 00	7.79E 00	1.67E 02	1.33E 02	4.93E 01	4.55E 01	2.78E 01	2.53E 01	1.64E 00	1.49E 00
0.800	55.71	1.07E 01	8.41E 00	1.92E 02	1.51E 02	5.19E 01	4.76E 01	2.95E 01	2.67E 01	1.64E 00	1.49E 00
0.800	52.92	1.19E 01	9.25E 00	2.26E 02	1.75E 02	5.49E 01	5.01E 01	3.15E 01	2.84E 01	1.67E 00	1.50E 00
0.800	48.11	1.58E 01	1.18E 01	3.29E 02	2.44E 02	6.27E 01	5.65E 01	3.66E 01	3.25E 01	1.76E 00	1.56E 00
0.800	44.10	2.35E 01	1.63E 01	5.33E 02	3.70E 02	7.41E 01	6.53E 01	4.41E 01	3.83E 01	1.95E 00	1.69E 00
0.800	40.71	4.16E 01	2.55E 01	1.02E 03	6.28E 02	9.28E 01	7.84E 01	5.63E 01	4.69E 01	2.29E 00	1.91E 00
0.800	37.80	1.08E 02	4.96E 01	2.86E 03	1.31E 03	1.32E 02	1.01E 02	8.19E 01	6.17E 01	3.10E 00	2.33E 00

2.00 % ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.	151.20	4.14E 01	2.97E 01	2.74E 02	1.96E 02	5.80E 01	5.15E 01	3.23E 01	2.80E 01	4.88E 00	4.23E 00
0.	126.00	2.04E 01	1.57E 01	1.62E 02	1.24E 02	4.82E 01	4.38E 01	2.61E 01	2.32E 01	3.29E 00	2.92E 00
0.	108.00	1.37E 01	1.08E 01	1.27E 02	1.00E 02	4.43E 01	4.06E 01	2.37E 01	2.12E 01	2.56E 00	2.29E 00
0.	94.50	1.06E 01	8.46E 00	1.12E 02	8.95E 01	4.24E 01	3.90E 01	2.26E 01	2.03E 01	2.13E 00	1.92E 00
0.	84.00	8.87E 00	7.14E 00	1.06E 02	8.50E 01	4.15E 01	3.84E 01	2.21E 01	2.00E 01	1.86E 00	1.68E 00
0.	75.60	7.83E 00	6.33E 00	1.04E 02	8.37E 01	4.13E 01	3.82E 01	2.20E 01	2.00E 01	1.66E 00	1.51E 00
0.	68.73	7.15E 00	5.78E 00	1.04E 02	8.41E 01	4.14E 01	3.83E 01	2.21E 01	2.01E 01	1.52E 00	1.38E 00
0.	63.00	6.72E 00	5.43E 00	1.07E 02	8.63E 01	4.18E 01	3.87E 01	2.24E 01	2.04E 01	1.41E 00	1.28E 00
0.	58.15	6.43E 00	5.20E 00	1.11E 02	8.94E 01	4.23E 01	3.92E 01	2.28E 01	2.07E 01	1.33E 00	1.21E 00
0.	54.00	6.27E 00	5.06E 00	1.16E 02	9.36E 01	4.31E 01	3.99E 01	2.34E 01	2.12E 01	1.26E 00	1.15E 00
0.	47.25	6.17E 00	4.95E 00	1.31E 02	1.05E 02	4.50E 01	4.15E 01	2.46E 01	2.24E 01	1.16E 00	1.06E 00
0.	42.00	6.33E 00	5.02E 00	1.51E 02	1.20E 02	4.73E 01	4.36E 01	2.62E 01	2.37E 01	1.10E 00	9.97E-01
0.	37.80	6.68E 00	5.24E 00	1.77E 02	1.39E 02	5.01E 01	4.60E 01	2.81E 01	2.53E 01	1.06E 00	9.57E-01
0.	34.36	7.26E 00	5.60E 00	2.11E 02	1.63E 02	5.34E 01	4.87E 01	3.02E 01	2.71E 01	1.04E 00	9.32E-01
0.050	151.20	3.15E 01	2.35E 01	2.09E 02	1.56E 02	5.27E 01	4.74E 01	2.90E 01	2.54E 01	4.38E 00	3.85E 00
0.050	126.00	1.58E 01	1.25E 01	1.25E 02	9.88E 01	4.40E 01	4.04E 01	2.35E 01	2.11E 01	2.96E 00	2.66E 00
0.050	108.00	1.06E 01	8.56E 00	9.83E 01	7.93E 01	4.04E 01	3.74E 01	2.13E 01	1.93E 01	2.30E 00	2.08E 00
0.050	94.50	8.08E 00	6.61E 00	8.55E 01	6.99E 01	3.85E 01	3.58E 01	2.02E 01	1.83E 01	1.91E 00	1.73E 00
0.050	84.00	6.66E 00	5.49E 00	7.93E 01	6.54E 01	3.75E 01	3.50E 01	1.96E 01	1.79E 01	1.65E 00	1.50E 00
0.050	75.60	5.78E 00	4.78E 00	7.64E 01	6.33E 01	3.71E 01	3.46E 01	1.94E 01	1.77E 01	1.47E 00	1.34E 00
0.050	68.73	5.20E 00	4.31E 00	7.56E 01	6.28E 01	3.70E 01	3.45E 01	1.94E 01	1.78E 01	1.33E 00	1.22E 00
0.050	63.00	4.84E 00	4.02E 00	7.68E 01	6.38E 01	3.72E 01	3.47E 01	1.96E 01	1.79E 01	1.23E 00	1.13E 00
0.050	58.15	4.58E 00	3.81E 00	7.88E 01	6.55E 01	3.76E 01	3.51E 01	1.99E 01	1.82E 01	1.15E 00	1.06E 00
0.050	54.00	4.42E 00	3.67E 00	8.18E 01	6.79E 01	3.81E 01	3.56E 01	2.02E 01	1.86E 01	1.09E 00	1.00E 00
0.050	47.25	4.25E 00	3.51E 00	9.00E 01	7.43E 01	3.94E 01	3.68E 01	2.12E 01	1.94E 01	1.00E 00	9.18E-01
0.050	42.00	4.26E 00	3.50E 00	1.01E 02	8.33E 01	4.12E 01	3.84E 01	2.23E 01	2.05E 01	9.38E-01	8.60E-01
0.050	37.80	4.38E 00	3.57E 00	1.16E 02	9.45E 01	4.32E 01	4.02E 01	2.37E 01	2.17E 01	8.96E-01	8.19E-01
0.050	34.36	4.62E 00	3.73E 00	1.35E 02	1.09E 02	4.56E 01	4.22E 01	2.53E 01	2.30E 01	8.68E-01	7.92E-01
0.100	151.20	2.46E 01	1.89E 01	1.63E 02	1.25E 02	4.83E 01	4.39E 01	2.61E 01	2.32E 01	3.95E 00	3.51E 00
0.100	126.00	1.27E 01	1.02E 01	1.01E 02	8.11E 01	4.08E 01	3.76E 01	2.15E 01	1.94E 01	2.70E 00	2.44E 00
0.100	108.00	8.63E 00	7.09E 00	7.99E 01	6.57E 01	3.76E 01	3.49E 01	1.95E 01	1.78E 01	2.11E 00	1.92E 00
0.100	94.50	6.88E 00	5.52E 00	7.04E 01	5.85E 01	3.59E 01	3.36E 01	1.86E 01	1.70E 01	1.76E 00	1.60E 00
0.100	84.00	5.84E 00	4.63E 00	6.60E 01	5.51E 01	3.51E 01	3.29E 01	1.81E 01	1.66E 01	1.52E 00	1.40E 00
0.100	75.60	4.83E 00	4.07E 00	6.42E 01	5.38E 01	3.48E 01	3.26E 01	1.80E 01	1.65E 01	1.36E 00	1.25E 00
0.100	68.73	4.40E 00	3.70E 00	6.41E 01	5.38E 01	3.48E 01	3.27E 01	1.81E 01	1.66E 01	1.24E 00	1.14E 00
0.100	63.00	4.11E 00	3.45E 00	6.53E 01	5.48E 01	3.51E 01	3.29E 01	1.83E 01	1.68E 01	1.15E 00	1.06E 00
0.100	58.15	3.91E 00	3.29E 00	6.73E 01	5.65E 01	3.55E 01	3.33E 01	1.86E 01	1.71E 01	1.08E 00	9.96E-01
0.100	54.00	3.79E 00	3.18E 00	7.02E 01	5.89E 01	3.61E 01	3.38E 01	1.90E 01	1.75E 01	1.03E 00	9.44E-01
0.100	47.25	3.68E 00	3.08E 00	7.79E 01	6.51E 01	3.75E 01	3.51E 01	2.00E 01	1.84E 01	9.43E-01	8.68E-01
0.100	42.00	3.72E 00	3.09E 00	8.85E 01	7.35E 01	3.93E 01	3.67E 01	2.11E 01	1.95E 01	8.88E-01	8.17E-01
0.100	37.80	3.86E 00	3.18E 00	1.02E 02	8.41E 01	4.13E 01	3.86E 01	2.25E 01	2.07E 01	8.51E-01	7.82E-01
0.100	34.36	4.11E 00	3.35E 00	1.20E 02	9.76E 01	4.38E 01	4.07E 01	2.41E 01	2.21E 01	8.29E-01	7.59E-01
0.200	151.20	1.79E 01	1.42E 01	1.18E 02	9.38E 01	4.31E 01	3.96E 01	2.29E 01	2.05E 01	3.46E 00	3.11E 00
0.200	126.00	9.76E 00	8.04E 00	7.75E 01	6.38E 01	3.71E 01	3.45E 01	1.92E 01	1.74E 01	2.42E 00	2.20E 00
0.200	108.00	6.84E 00	5.72E 00	6.34E 01	5.30E 01	3.46E 01	3.24E 01	1.77E 01	1.62E 01	1.91E 00	1.75E 00
0.200	94.50	5.41E 00	4.56E 00	5.73E 01	4.83E 01	3.34E 01	3.13E 01	1.70E 01	1.56E 01	1.61E 00	1.48E 00
0.200	84.00	4.62E 00	3.91E 00	5.49E 01	4.65E 01	3.29E 01	3.10E 01	1.68E 01	1.55E 01	1.41E 00	1.30E 00
0.200	75.60	4.14E 00	3.50E 00	5.47E 01	4.63E 01	3.29E 01	3.10E 01	1.68E 01	1.55E 01	1.27E 00	1.17E 00
0.200	68.73	3.83E 00	3.25E 00	5.57E 01	4.73E 01	3.32E 01	3.12E 01	1.71E 01	1.58E 01	1.17E 00	1.08E 00
0.200	63.00	3.64E 00	3.09E 00	5.78E 01	4.90E 01	3.36E 01	3.17E 01	1.74E 01	1.61E 01	1.10E 00	1.01E 00
0.200	58.15	3.53E 00	2.99E 00	6.07E 01	5.14E 01	3.43E 01	3.22E 01	1.79E 01	1.65E 01	1.04E 00	9.59E-01
0.200	54.00	3.48E 00	2.94E 00	6.44E 01	5.44E 01	3.50E 01	3.29E 01	1.84E 01	1.70E 01	9.92E-01	9.17E-01

2.00 % ^{235}U (continued)

DIAMETER OF RCD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.200	47.25	3.51E 00	2.95E 00	7.42E 01	6.24E 01	3.69E 01	3.46E 01	1.96E 01	1.81E 01	9.27E-01	8.56E-01
0.200	42.00	3.67E 00	3.06E 00	8.75E 01	7.29E 01	3.92E 01	3.67E 01	2.11E 01	1.95E 01	8.88E-01	8.18E-01
0.200	37.80	3.97E 00	3.28E 00	1.05E 02	8.66E 01	4.18E 01	3.90E 01	2.29E 01	2.11E 01	8.66E-01	7.96E-01
0.200	34.36	4.41E 00	3.60E 00	1.28E 02	1.05E 02	4.49E 01	4.18E 01	2.49E 01	2.28E 01	8.57E-01	7.85E-01
0.300	151.20	1.46E 01	1.18E 01	9.68E 01	7.83E 01	4.02E 01	3.72E 01	2.10E 01	1.90E 01	3.18E 00	2.88E 00
0.300	126.00	8.39E 00	6.98E 00	6.66E 01	5.54E 01	3.52E 01	3.29E 01	1.80E 01	1.65E 01	2.27E 00	2.07E 00
0.300	108.00	6.08E 00	5.13E 00	5.63E 01	4.75E 01	3.32E 01	3.11E 01	1.68E 01	1.54E 01	1.82E 00	1.67E 00
0.300	94.50	4.94E 00	4.19E 00	5.23E 01	4.44E 01	3.24E 01	3.04E 01	1.64E 01	1.51E 01	1.55E 00	1.43E 00
0.300	84.00	4.33E 00	3.68E 00	5.15E 01	4.38E 01	3.22E 01	3.03E 01	1.64E 01	1.51E 01	1.38E 00	1.27E 00
0.300	75.60	3.97E 00	3.37E 00	5.25E 01	4.46E 01	3.25E 01	3.06E 01	1.66E 01	1.54E 01	1.26E 00	1.16E 00
0.300	68.73	3.76E 00	3.20E 00	5.46E 01	4.65E 01	3.30E 01	3.11E 01	1.70E 01	1.57E 01	1.17E 00	1.08E 00
0.300	63.00	3.66E 00	3.11E 00	5.80E 01	4.93E 01	3.37E 01	3.18E 01	1.75E 01	1.62E 01	1.10E 00	1.02E 00
0.300	58.15	3.63E 00	3.07E 00	6.23E 01	5.28E 01	3.46E 01	3.26E 01	1.81E 01	1.68E 01	1.06E 00	9.76E-01
0.300	54.00	3.65E 00	3.09E 00	6.77E 01	5.72E 01	3.57E 01	3.36E 01	1.89E 01	1.74E 01	1.02E 00	9.42E-01
0.300	47.25	3.87E 00	3.24E 00	8.19E 01	6.85E 01	3.82E 01	3.59E 01	2.06E 01	1.90E 01	9.71E-01	8.97E-01
0.300	42.00	4.28E 00	3.54E 00	1.02E 02	8.42E 01	4.14E 01	3.86E 01	2.26E 01	2.08E 01	9.50E-01	8.75E-01
0.300	37.80	4.91E 00	4.00E 00	1.30E 02	1.06E 02	4.51E 01	4.19E 01	2.51E 01	2.30E 01	9.49E-01	8.69E-01
0.300	34.36	5.74E 00	4.58E 00	1.67E 02	1.33E 02	4.93E 01	4.55E 01	2.78E 01	2.54E 01	9.57E-01	8.71E-01
0.400	151.20	1.28E 01	1.05E 01	8.46E 01	6.92E 01	3.83E 01	3.56E 01	1.99E 01	1.80E 01	3.01E 00	2.73E 00
0.400	126.00	7.65E 00	6.41E 00	6.07E 01	5.09E 01	3.41E 01	3.19E 01	1.73E 01	1.59E 01	2.18E 00	2.00E 00
0.400	108.00	5.71E 00	4.84E 00	5.29E 01	4.48E 01	3.25E 01	3.05E 01	1.64E 01	1.51E 01	1.77E 00	1.63E 00
0.400	94.50	4.77E 00	4.07E 00	5.05E 01	4.30E 01	3.20E 01	3.01E 01	1.62E 01	1.50E 01	1.53E 00	1.41E 00
0.400	84.00	4.28E 00	3.65E 00	5.10E 01	4.35E 01	3.21E 01	3.03E 01	1.64E 01	1.51E 01	1.38E 00	1.27E 00
0.400	75.60	4.02E 00	3.43E 00	5.32E 01	4.54E 01	3.27E 01	3.08E 01	1.68E 01	1.56E 01	1.27E 00	1.18E 00
0.400	68.73	3.91E 00	3.33E 00	5.69E 01	4.84E 01	3.35E 01	3.16E 01	1.74E 01	1.61E 01	1.19E 00	1.11E 00
0.400	63.00	3.90E 00	3.31E 00	6.19E 01	5.25E 01	3.46E 01	3.25E 01	1.81E 01	1.68E 01	1.14E 00	1.06E 00
0.400	58.15	3.98E 00	3.36E 00	6.84E 01	5.78E 01	3.59E 01	3.37E 01	1.90E 01	1.76E 01	1.10E 00	1.02E 00
0.400	54.00	4.12E 00	3.47E 00	7.64E 01	6.42E 01	3.73E 01	3.50E 01	2.00E 01	1.84E 01	1.08E 00	9.96E-01
0.400	47.25	4.65E 00	3.85E 00	9.83E 01	8.15E 01	4.09E 01	3.82E 01	2.23E 01	2.06E 01	1.05E 00	9.71E-01
0.400	42.00	5.53E 00	4.50E 00	1.32E 02	1.07E 02	4.54E 01	4.21E 01	2.53E 01	2.32E 01	1.06E 00	9.72E-01
0.400	37.80	6.95E 00	5.51E 00	1.84E 02	1.46E 02	5.11E 01	4.70E 01	2.90E 01	2.63E 01	1.10E 00	9.96E-01
0.400	34.36	9.32E 00	7.12E 00	2.71E 02	2.07E 02	5.85E 01	5.32E 01	3.39E 01	3.04E 01	1.16E 00	1.04E 00
0.500	151.20	1.16E 01	9.60E 00	7.70E 01	6.35E 01	3.70E 01	3.45E 01	1.91E 01	1.74E 01	2.89E 00	2.63E 00
0.500	126.00	7.23E 00	6.09E 00	5.74E 01	4.84E 01	3.34E 01	3.13E 01	1.70E 01	1.56E 01	2.14E 00	1.96E 00
0.500	108.00	5.56E 00	4.73E 00	5.15E 01	4.38E 01	3.22E 01	3.03E 01	1.63E 01	1.50E 01	1.76E 00	1.62E 00
0.500	94.50	4.79E 00	4.08E 00	5.06E 01	4.31E 01	3.20E 01	3.02E 01	1.63E 01	1.51E 01	1.54E 00	1.42E 00
0.500	84.00	4.41E 00	3.76E 00	5.25E 01	4.47E 01	3.25E 01	3.06E 01	1.67E 01	1.54E 01	1.40E 00	1.30E 00
0.500	75.60	4.26E 00	3.62E 00	5.63E 01	4.79E 01	3.34E 01	3.15E 01	1.73E 01	1.60E 01	1.31E 00	1.21E 00
0.500	68.73	4.26E 00	3.61E 00	6.19E 01	5.25E 01	3.46E 01	3.26E 01	1.81E 01	1.68E 01	1.25E 00	1.15E 00
0.500	63.00	4.38E 00	3.70E 00	6.95E 01	5.87E 01	3.61E 01	3.39E 01	1.92E 01	1.77E 01	1.21E 00	1.12E 00
0.500	58.15	4.61E 00	3.87E 00	7.93E 01	6.65E 01	3.78E 01	3.55E 01	2.03E 01	1.88E 01	1.18E 00	1.09E 00
0.500	54.00	4.96E 00	4.13E 00	9.19E 01	7.65E 01	3.99E 01	3.73E 01	2.17E 01	2.00E 01	1.17E 00	1.08E 00
0.500	47.25	6.07E 00	4.95E 00	1.28E 02	1.05E 02	4.50E 01	4.18E 01	2.50E 01	2.29E 01	1.18E 00	1.08E 00
0.500	42.00	8.04E 00	6.36E 00	1.91E 02	1.51E 02	5.18E 01	4.77E 01	2.95E 01	2.68E 01	1.24E 00	1.12E 00
0.500	37.80	1.17E 01	8.80E 00	3.10E 02	2.33E 02	6.13E 01	5.55E 01	3.57E 01	3.19E 01	1.35E 00	1.20E 00
0.500	34.36	1.96E 01	1.36E 01	5.71E 02	3.95E 02	7.59E 01	6.67E 01	4.52E 01	3.92E 01	1.55E 00	1.35E 00
0.600	151.20	1.09E 01	9.03E 00	7.20E 01	5.97E 01	3.62E 01	3.38E 01	1.86E 01	1.70E 01	2.82E 00	2.57E 00
0.600	126.00	7.02E 00	5.93E 00	5.57E 01	4.70E 01	3.31E 01	3.10E 01	1.68E 01	1.54E 01	2.12E 00	1.94E 00
0.600	108.00	5.56E 00	4.73E 00	5.15E 01	4.38E 01	3.22E 01	3.03E 01	1.64E 01	1.51E 01	1.77E 00	1.63E 00
0.600	94.50	4.92E 00	4.20E 00	5.21E 01	4.44E 01	3.24E 01	3.05E 01	1.66E 01	1.53E 01	1.57E 00	1.45E 00
0.600	84.00	4.67E 00	3.98E 00	5.56E 01	4.74E 01	3.32E 01	3.13E 01	1.72E 01	1.59E 01	1.45E 00	1.34E 00
0.600	75.60	4.66E 00	3.95E 00	6.17E 01	5.23E 01	3.45E 01	3.25E 01	1.81E 01	1.67E 01	1.37E 00	1.27E 00
0.600	68.73	4.82E 00	4.07E 00	7.02E 01	5.92E 01	3.62E 01	3.40E 01	1.92E 01	1.78E 01	1.32E 00	1.22E 00
0.600	63.00	5.15E 00	4.31E 00	8.17E 01	6.85E 01	3.83E 01	3.59E 01	2.06E 01	1.90E 01	1.30E 00	1.20E 00
0.600	58.15	5.65E 00	4.69E 00	9.71E 01	8.06E 01	4.07E 01	3.81E 01	2.22E 01	2.05E 01	1.29E 00	1.19E 00
0.600	54.00	6.36E 00	5.22E 00	1.18E 02	9.66E 01	4.36E 01	4.06E 01	2.42E 01	2.22E 01	1.30E 00	1.20E 00
0.600	47.25	8.75E 00	6.93E 00	1.85E 02	1.47E 02	5.12E 01	4.72E 01	2.91E 01	2.64E 01	1.38E 00	1.25E 00
0.600	42.00	1.37E 01	1.03E 01	3.27E 02	2.44E 02	6.25E 01	5.64E 01	3.65E 01	3.25E 01	1.53E 00	1.37E 00
0.600	37.80	2.65E 01	1.77E 01	7.02E 02	4.68E 02	8.15E 01	7.08E 01	4.89E 01	4.19E 01	1.85E 00	1.58E 00
0.600	34.36	8.38E 01	4.11E 01	2.44E 03	1.20E 03	1.25E 02	9.79E 01	7.73E 01	5.96E 01	2.66E 00	2.05E 00

3.00 % ^{235}U

DIAMETER OF RCD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	189.00	1.52E 01	1.23E 01	8.03E 01	6.51E 01	3.73E 01	3.45E 01	1.89E 01	1.70E 01	3.58E 00	3.22E 00
0.	162.00	1.05E 01	8.66E 00	6.48E 01	5.34E 01	3.46E 01	3.22E 01	1.73E 01	1.57E 01	2.81E 00	2.54E 00
0.	141.75	8.12E 00	6.76E 00	5.73E 01	4.77E 01	3.31E 01	3.09E 01	1.65E 01	1.50E 01	2.34E 00	2.13E 00
0.	126.00	6.71E 00	5.63E 00	5.33E 01	4.47E 01	3.23E 01	3.02E 01	1.60E 01	1.46E 01	2.02E 00	1.84E 00
0.	113.40	5.79E 00	4.87E 00	5.11E 01	4.30E 01	3.19E 01	2.99E 01	1.58E 01	1.45E 01	1.79E 00	1.64E 00
0.	103.09	5.16E 00	4.35E 00	5.01E 01	4.22E 01	3.17E 01	2.97E 01	1.57E 01	1.44E 01	1.62E 00	1.49E 00
0.	94.50	4.70E 00	3.98E 00	4.97E 01	4.21E 01	3.16E 01	2.97E 01	1.58E 01	1.45E 01	1.49E 00	1.37E 00
0.	87.23	4.36E 00	3.69E 00	5.00E 01	4.23E 01	3.17E 01	2.98E 01	1.59E 01	1.46E 01	1.38E 00	1.27E 00
0.	81.00	4.11E 00	3.48E 00	5.07E 01	4.29E 01	3.19E 01	3.00E 01	1.60E 01	1.48E 01	1.30E 00	1.19E 00
0.	70.87	3.75E 00	3.18E 00	5.30E 01	4.48E 01	3.24E 01	3.05E 01	1.64E 01	1.52E 01	1.17E 00	1.07E 00
0.	63.00	3.55E 00	3.00E 00	5.63E 01	4.76E 01	3.32E 01	3.12E 01	1.70E 01	1.57E 01	1.07E 00	9.88E-01
0.	56.70	3.43E 00	2.89E 00	6.05E 01	5.11E 01	3.41E 01	3.21E 01	1.76E 01	1.63E 01	9.99E-01	9.22E-01
0.	51.55	3.38E 00	2.84E 00	6.55E 01	5.51E 01	3.51E 01	3.30E 01	1.83E 01	1.69E 01	9.44E-01	8.70E-01
0.	47.25	3.37E 00	2.83E 00	7.14E 01	5.98E 01	3.63E 01	3.40E 01	1.91E 01	1.76E 01	9.01E-01	8.30E-01
0.	43.62	3.40E 00	2.84E 00	7.80E 01	6.52E 01	3.75E 01	3.51E 01	1.99E 01	1.83E 01	8.67E-01	7.99E-01
0.	37.80	3.58E 00	2.96E 00	9.48E 01	7.83E 01	4.02E 01	3.75E 01	2.17E 01	1.99E 01	8.20E-01	7.53E-01

3.00 % ^{235}U (continued)

DIAMETER OF RCD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.050	189.00	1.04E 01	1.02E 01	6.54E 01	5.39E 01	3.47E 01	3.23E 01	1.73E 01	1.57E 01	3.28E 00	2.97E 00
0.050	162.00	8.54E 00	7.14E 00	5.27E 01	4.41E 01	3.22E 01	3.01E 01	1.58E 01	1.44E 01	2.56E 00	2.34E 00
0.050	141.75	6.54E 00	5.52E 00	4.61E 01	3.89E 01	3.07E 01	2.88E 01	1.50E 01	1.37E 01	2.13E 00	1.95E 00
0.050	126.00	5.35E 00	4.54E 00	4.24E 01	3.60E 01	2.98E 01	2.80E 01	1.45E 01	1.33E 01	1.83E 00	1.68E 00
0.050	113.40	4.57E 00	3.90E 00	4.03E 01	3.44E 01	2.93E 01	2.76E 01	1.43E 01	1.31E 01	1.62E 00	1.49E 00
0.050	103.09	4.03E 00	3.46E 00	3.91E 01	3.35E 01	2.90E 01	2.74E 01	1.42E 01	1.30E 01	1.46E 00	1.34E 00
0.050	94.50	3.66E 00	3.14E 00	3.87E 01	3.32E 01	2.89E 01	2.73E 01	1.42E 01	1.31E 01	1.34E 00	1.23E 00
0.050	87.23	3.38E 00	2.91E 00	3.88E 01	3.33E 01	2.90E 01	2.74E 01	1.42E 01	1.31E 01	1.24E 00	1.15E 00
0.050	81.00	3.17E 00	2.73E 00	3.91E 01	3.37E 01	2.91E 01	2.75E 01	1.43E 01	1.33E 01	1.16E 00	1.08E 00
0.050	70.87	2.88E 00	2.47E 00	4.06E 01	3.49E 01	2.95E 01	2.79E 01	1.47E 01	1.36E 01	1.04E 00	9.64E-01
0.050	63.00	2.70E 00	2.32E 00	4.29E 01	3.68E 01	3.01E 01	2.85E 01	1.51E 01	1.40E 01	9.53E-01	8.84E-01
0.050	56.70	2.60E 00	2.23E 00	4.58E 01	3.94E 01	3.09E 01	2.92E 01	1.57E 01	1.45E 01	8.88E-01	8.24E-01
0.050	51.55	2.54E 00	2.18E 00	4.93E 01	4.22E 01	3.18E 01	3.00E 01	1.63E 01	1.51E 01	8.39E-01	7.78E-01
0.050	47.25	2.52E 00	2.15E 00	5.34E 01	4.56E 01	3.27E 01	3.09E 01	1.69E 01	1.57E 01	7.98E-01	7.40E-01
0.050	43.62	2.53E 00	2.16E 00	5.80E 01	4.94E 01	3.37E 01	3.18E 01	1.76E 01	1.63E 01	7.67E-01	7.11E-01
0.050	37.80	2.62E 00	2.22E 00	6.93E 01	5.86E 01	3.60E 01	3.39E 01	1.91E 01	1.77E 01	7.22E-01	6.68E-01
0.100	189.00	1.04E 01	8.70E 00	5.53E 01	4.60E 01	3.27E 01	3.05E 01	1.61E 01	1.46E 01	3.04E 00	2.76E 00
0.100	162.00	7.25E 00	6.14E 00	4.48E 01	3.79E 01	3.03E 01	2.85E 01	1.47E 01	1.35E 01	2.38E 00	2.18E 00
0.100	141.75	5.60E 00	4.77E 00	3.95E 01	3.37E 01	2.90E 01	2.73E 01	1.40E 01	1.28E 01	1.98E 00	1.82E 00
0.100	126.00	4.61E 00	3.96E 00	3.66E 01	3.14E 01	2.83E 01	2.67E 01	1.36E 01	1.25E 01	1.71E 00	1.58E 00
0.100	113.40	3.97E 00	3.42E 00	3.50E 01	3.02E 01	2.79E 01	2.63E 01	1.34E 01	1.24E 01	1.52E 00	1.40E 00
0.100	103.09	3.54E 00	3.05E 00	3.43E 01	2.96E 01	2.77E 01	2.62E 01	1.34E 01	1.23E 01	1.38E 00	1.27E 00
0.100	94.50	3.23E 00	2.79E 00	3.41E 01	2.95E 01	2.76E 01	2.62E 01	1.34E 01	1.24E 01	1.26E 00	1.17E 00
0.100	87.23	3.00E 00	2.59E 00	3.44E 01	2.97E 01	2.77E 01	2.63E 01	1.35E 01	1.25E 01	1.18E 00	1.09E 00
0.100	81.00	2.82E 00	2.44E 00	3.48E 01	3.02E 01	2.79E 01	2.64E 01	1.36E 01	1.26E 01	1.10E 00	1.02E 00
0.100	70.87	2.59E 00	2.24E 00	3.65E 01	3.16E 01	2.84E 01	2.69E 01	1.40E 01	1.30E 01	9.95E-01	9.24E-01
0.100	63.00	2.46E 00	2.12E 00	3.90E 01	3.37E 01	2.92E 01	2.76E 01	1.46E 01	1.35E 01	9.17E-01	8.52E-01
0.100	56.70	2.39E 00	2.06E 00	4.21E 01	3.63E 01	3.00E 01	2.84E 01	1.51E 01	1.41E 01	8.58E-01	7.97E-01
0.100	51.55	2.36E 00	2.03E 00	4.58E 01	3.94E 01	3.10E 01	2.93E 01	1.58E 01	1.47E 01	8.14E-01	7.56E-01
0.100	47.25	2.37E 00	2.03E 00	5.01E 01	4.30E 01	3.20E 01	3.03E 01	1.65E 01	1.53E 01	7.79E-01	7.24E-01
0.100	43.62	2.40E 00	2.06E 00	5.51E 01	4.72E 01	3.31E 01	3.13E 01	1.73E 01	1.60E 01	7.53E-01	6.99E-01
0.100	37.80	2.55E 00	2.17E 00	6.76E 01	5.74E 01	3.57E 01	3.36E 01	1.89E 01	1.76E 01	7.16E-01	6.64E-01
0.200	189.00	8.45E 00	7.14E 00	4.47E 01	3.78E 01	3.03E 01	2.84E 01	1.46E 01	1.34E 01	2.77E 00	2.53E 00
0.200	162.00	6.00E 00	5.13E 00	3.71E 01	3.17E 01	2.83E 01	2.67E 01	1.35E 01	1.24E 01	2.19E 00	2.01E 00
0.200	141.75	4.73E 00	4.08E 00	3.34E 01	2.88E 01	2.73E 01	2.58E 01	1.30E 01	1.20E 01	1.84E 00	1.70E 00
0.200	126.00	3.98E 00	3.45E 00	3.16E 01	2.74E 01	2.68E 01	2.54E 01	1.28E 01	1.18E 01	1.61E 00	1.49E 00
0.200	113.40	3.50E 00	3.03E 00	3.09E 01	2.68E 01	2.66E 01	2.52E 01	1.27E 01	1.18E 01	1.44E 00	1.33E 00
0.200	103.09	3.17E 00	2.76E 00	3.08E 01	2.67E 01	2.67E 01	2.52E 01	1.28E 01	1.18E 01	1.32E 00	1.22E 00
0.200	94.50	2.94E 00	2.56E 00	3.12E 01	2.71E 01	2.68E 01	2.54E 01	1.29E 01	1.20E 01	1.22E 00	1.13E 00
0.200	87.23	2.78E 00	2.42E 00	3.19E 01	2.77E 01	2.71E 01	2.56E 01	1.31E 01	1.22E 01	1.14E 00	1.06E 00
0.200	81.00	2.66E 00	2.32E 00	3.29E 01	2.86E 01	2.74E 01	2.60E 01	1.34E 01	1.24E 01	1.08E 00	1.01E 00
0.200	70.87	2.53E 00	2.19E 00	3.56E 01	3.09E 01	2.82E 01	2.68E 01	1.40E 01	1.30E 01	9.90E-01	9.22E-01
0.200	63.00	2.46E 00	2.13E 00	3.90E 01	3.38E 01	2.92E 01	2.77E 01	1.47E 01	1.36E 01	9.23E-01	8.59E-01
0.200	56.70	2.47E 00	2.13E 00	4.35E 01	3.76E 01	3.04E 01	2.88E 01	1.55E 01	1.44E 01	8.77E-01	8.17E-01
0.200	51.55	2.52E 00	2.17E 00	4.89E 01	4.21E 01	3.18E 01	3.01E 01	1.64E 01	1.52E 01	8.44E-01	7.85E-01
0.200	47.25	2.62E 00	2.24E 00	5.55E 01	4.75E 01	3.32E 01	3.14E 01	1.74E 01	1.61E 01	8.21E-01	7.63E-01
0.200	43.62	2.76E 00	2.35E 00	6.32E 01	5.39E 01	3.49E 01	3.29E 01	1.84E 01	1.71E 01	8.04E-01	7.47E-01
0.200	37.80	3.17E 00	2.66E 00	8.38E 01	7.04E 01	3.86E 01	3.63E 01	2.09E 01	1.93E 01	7.89E-01	7.30E-01
0.300	189.00	7.45E 00	6.34E 00	3.94E 01	3.36E 01	2.90E 01	2.72E 01	1.38E 01	1.27E 01	2.62E 00	2.40E 00
0.300	162.00	5.43E 00	4.66E 00	3.35E 01	2.88E 01	2.73E 01	2.58E 01	1.30E 01	1.19E 01	2.10E 00	1.93E 00
0.300	141.75	4.38E 00	3.79E 00	3.09E 01	2.67E 01	2.66E 01	2.52E 01	1.26E 01	1.16E 01	1.79E 00	1.65E 00
0.300	126.00	3.77E 00	3.27E 00	2.99E 01	2.60E 01	2.63E 01	2.49E 01	1.25E 01	1.16E 01	1.58E 00	1.46E 00
0.300	113.40	3.38E 00	2.94E 00	2.98E 01	2.59E 01	2.63E 01	2.50E 01	1.26E 01	1.17E 01	1.43E 00	1.32E 00
0.300	103.09	3.13E 00	2.72E 00	3.03E 01	2.64E 01	2.65E 01	2.52E 01	1.28E 01	1.18E 01	1.32E 00	1.22E 00
0.300	94.50	2.96E 00	2.58E 00	3.13E 01	2.73E 01	2.69E 01	2.55E 01	1.30E 01	1.21E 01	1.23E 00	1.14E 00
0.300	87.23	2.85E 00	2.48E 00	3.27E 01	2.84E 01	2.73E 01	2.59E 01	1.34E 01	1.24E 01	1.17E 00	1.08E 00
0.300	81.00	2.78E 00	2.42E 00	3.44E 01	2.99E 01	2.79E 01	2.64E 01	1.37E 01	1.28E 01	1.11E 00	1.04E 00
0.300	70.87	2.75E 00	2.38E 00	3.88E 01	3.36E 01	2.92E 01	2.76E 01	1.46E 01	1.36E 01	1.04E 00	9.66E-01
0.300	63.00	2.81E 00	2.42E 00	4.46E 01	3.85E 01	3.07E 01	2.91E 01	1.57E 01	1.46E 01	9.89E-01	9.19E-01
0.300	56.70	2.94E 00	2.53E 00	5.19E 01	4.47E 01	3.25E 01	3.07E 01	1.69E 01	1.57E 01	9.57E-01	8.90E-01
0.300	51.55	3.16E 00	2.69E 00	6.13E 01	5.23E 01	3.45E 01	3.26E 01	1.82E 01	1.69E 01	9.38E-01	8.71E-01
0.300	47.25	3.45E 00	2.92E 00	7.31E 01	6.18E 01	3.68E 01	3.46E 01	1.97E 01	1.83E 01	9.31E-01	8.63E-01
0.300	43.62	3.84E 00	3.22E 00	8.80E 01	7.39E 01	3.93E 01	3.69E 01	2.14E 01	1.98E 01	9.32E-01	8.62E-01
0.300	37.80	5.03E 00	4.11E 00	1.33E 02	1.09E 02	4.56E 01	4.24E 01	2.54E 01	2.33E 01	9.62E-01	8.82E-01
0.400	189.00	6.87E 00	5.88E 00	3.64E 01	3.11E 01	2.81E 01	2.65E 01	1.34E 01	1.23E 01	2.53E 00	2.32E 00
0.400	162.00	5.14E 00	4.44E 00	3.18E 01	2.74E 01	2.68E 01	2.54E 01	1.27E 01	1.17E 01	2.06E 00	1.90E 00
0.400	141.75	4.25E 00	3.68E 00	3.00E 01	2.60E 01	2.63E 01	2.49E 01	1.25E 01	1.15E 01	1.77E 00	1.64E 00
0.400	126.00	3.74E 00	3.25E 00	2.97E 01	2.58E 01	2.63E 01	2.49E 01	1.25E 01	1.16E 01	1.58E 00	1.46E 00
0.400	113.40	3.43E 00	2.98E 00	3.02E 01	2.63E 01	2.65E 01	2.51E 01	1.27E 01	1.18E 01	1.45E 00	1.34E 00
0.400	103.09	3.24E 00	2.82E 00	3.14E 01	2.74E 01	2.69E 01	2.56E 01	1.31E 01	1.21E 01	1.35E 00	1.25E 00
0.400	94.50	3.14E 00	2.73E 00	3.32E 01	2.89E 01	2.75E 01	2.61E 01	1.35E 01	1.26E 01	1.28E 00	1.19E 00
0.400	87.23	3.09E 00	2.69E 00	3.55E 01	3.08E 01	2.82E 01	2.68E 01	1.40E 01	1.30E 01	1.22E 00	1.14E 00
0.400	81.00	3.09E 00	2.68E 00	3.82E 01	3.31E 01	2.90E 01	2.75E 01	1.45E 01	1.35E 01	1.18E 00	1.10E 00
0.400	70.87	3.20E 00	2.76E 00	4.52E 01	3.90E 01	3.09E 01	2.92E 01	1.58E 01	1.47E 01	1.12E 00	1.04E 00
0.400	63.00	3.46E 00	2.96E 00	5.48E 01	4.70E 01	3.31E 01	3.13E 01	1.73E 01	1.61E 01	1.09E 00	1.01E 00
0.400	56.70	3.84E 00	3.26E 00	6.77E 01	5.75E 01	3.58E 01	3.37E 01	1.90E 01	1.77E 01	1.08E 00	1.00E 00
0.400	51.55	4.40E 00	3.69E 00	8.53E 01	7.16E 01	3.89E 01	3.65E 01	2.11E 01	1.95E 01	1.09E 00	1.01E 00
0.400	47.25	5.18E 00	4.29E 00	1.10E 02	9.07E 01	4.25E 01	3.97E 01	2.35E 01	2.16E 01	1.11E 00	1.02E 00
0.400	43.62	6.29E 00	5.11E 00	1.44E 02	1.17E 02	4.69E 01	4.35E 01	2.63E 01	2.41E 01	1.15E 00	1.05E 00
0.400	37.80	1.04E 01	7.95E 00	2.76E 02	2.11E 02	5.89E 01	5.36E 01	3.42E 01	3.07E 01	1.29E 00	1.16E 00
0.500	189.00	6.55E 00	5.62E 00	3.46E 01	2.97E 01	2.77E 01	2.61E 01	1.31E 01	1.21E 01	2.48E 00	2.28E 00
0.500	162.00	5.03E 00	4.35E 00	3.10E 01	2.68E 01	2.66E 01	2.52E 01	1.26E 01	1.17E 01	2.05E 00	1.89E 00
0.500	141.75	4.26E 00	3.70E 00	3.01E 01	2.61E 01	2.64E 01	2.50E 01	1.26E 01	1.16E 01	1.78E 00	1.65E 00
0.500	126.00	3.83E 00	3.33E 00	3.04E 01	2.64E 01	2.66E 01	2.52E 01	1.28E 01	1.18E 01	1.61E 00	1.49E 00
0.500	113.40	3.60E 00	3.13E 00	3.17E 01	2.76E 01	2.70E 01	2.56E 01	1.32E 01	1.22E 01	1.49E 00	1.38E 00
0.500	103.09	3.49E 00	3.04E 00	3.39E 01	2.95E 01	2.77E 01	2.63E 01	1.36E 01	1.27E 01	1.41E 00	1.31E 00
0.500	94.50	3.47E 00	3.01E 00	3.67E 01	3.19E 01	2.86E 01	2.71E 01	1.42E 01	1.33E 01	1.35E 00	1.25E 00

3.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.500	87.23	3.51E 00	3.04E 00	4.02E 01	3.48E 01	2.96E 01	2.80E 01	1.49E 01	1.39E 01	1.30E 00	1.21E 00
0.500	81.00	3.61E 00	3.12E 00	4.46E 01	3.85E 01	3.07E 01	2.91E 01	1.57E 01	1.46E 01	1.27E 00	1.18E 00
0.500	70.87	3.98E 00	3.41E 00	5.61E 01	4.81E 01	3.34E 01	3.16E 01	1.75E 01	1.63E 01	1.24E 00	1.15E 00
0.500	63.00	4.59E 00	3.89E 00	7.29E 01	6.17E 01	3.68E 01	3.46E 01	1.97E 01	1.83E 01	1.24E 00	1.15E 00
0.500	56.70	5.53E 00	4.61E 00	9.76E 01	8.13E 01	4.08E 01	3.82E 01	2.24E 01	2.07E 01	1.27E 00	1.17E 00
0.500	51.55	6.98E 00	5.70E 00	1.35E 02	1.10E 02	4.59E 01	4.27E 01	2.57E 01	2.36E 01	1.32E 00	1.21E 00
0.500	47.25	9.28E 00	7.35E 00	1.96E 02	1.56E 02	5.23E 01	4.82E 01	2.99E 01	2.72E 01	1.41E 00	1.28E 00
0.500	43.62	1.32E 01	1.00E 01	3.04E 02	2.30E 02	6.09E 01	5.53E 01	3.55E 01	3.18E 01	1.55E 00	1.39E 00
0.500	37.80	3.94E 01	2.45E 01	1.04E 03	6.49E 02	9.34E 01	7.93E 01	5.67E 01	4.74E 01	2.14E 00	1.79E 00
0.600	189.00	6.37E 00	5.48E 00	3.37E 01	2.90E 01	2.74E 01	2.59E 01	1.30E 01	1.20E 01	2.46E 00	2.26E 00
0.600	162.00	5.03E 00	4.35E 00	3.10E 01	2.69E 01	2.67E 01	2.52E 01	1.27E 01	1.17E 01	2.06E 00	1.90E 00
0.600	141.75	4.37E 00	3.79E 00	3.08E 01	2.68E 01	2.67E 01	2.53E 01	1.28E 01	1.19E 01	1.82E 00	1.68E 00
0.600	126.00	4.05E 00	3.52E 00	3.21E 01	2.79E 01	2.71E 01	2.58E 01	1.32E 01	1.23E 01	1.66E 00	1.54E 00
0.600	113.40	3.92E 00	3.40E 00	3.45E 01	3.00E 01	2.79E 01	2.65E 01	1.38E 01	1.28E 01	1.56E 00	1.45E 00
0.600	103.09	3.91E 00	3.39E 00	3.80E 01	3.29E 01	2.89E 01	2.74E 01	1.45E 01	1.35E 01	1.49E 00	1.39E 00
0.600	94.50	3.98E 00	3.44E 00	4.21E 01	3.64E 01	3.01E 01	2.85E 01	1.53E 01	1.42E 01	1.44E 00	1.34E 00
0.600	87.23	4.15E 00	3.58E 00	4.76E 01	4.10E 01	3.15E 01	2.98E 01	1.62E 01	1.51E 01	1.41E 00	1.32E 00
0.600	81.00	4.42E 00	3.79E 00	5.46E 01	4.68E 01	3.31E 01	3.13E 01	1.73E 01	1.61E 01	1.40E 00	1.30E 00
0.600	70.87	5.26E 00	4.44E 00	7.42E 01	6.27E 01	3.70E 01	3.48E 01	1.99E 01	1.84E 01	1.41E 00	1.31E 00
0.600	63.00	6.66E 00	5.52E 00	1.06E 02	8.77E 01	4.20E 01	3.93E 01	2.32E 01	2.14E 01	1.46E 00	1.35E 00
0.600	56.70	9.04E 00	7.28E 00	1.59E 02	1.28E 02	4.86E 01	4.50E 01	2.75E 01	2.51E 01	1.56E 00	1.42E 00
0.600	51.55	1.34E 01	1.03E 01	2.60E 02	2.00E 02	5.77E 01	5.27E 01	3.34E 01	3.01E 01	1.72E 00	1.55E 00
0.600	47.25	2.27E 01	1.62E 01	4.80E 02	3.42E 02	7.15E 01	6.35E 01	4.24E 01	3.72E 01	2.00E 00	1.76E 00
0.600	43.62	4.91E 01	3.00E 01	1.13E 03	6.88E 02	9.59E 01	8.09E 01	5.84E 01	4.85E 01	2.55E 00	2.12E 00
0.600	37.80		1.16E 03		3.08E 04		2.95E 02		1.88E 02		7.11E 00

5.00% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	270.00	8.07E+00	6.83E+00	2.99E+01	2.53E+01	2.58E+01	2.42E+01	1.14E+01	1.03E+01	3.08E+00	2.79E+00
0.	236.25	6.37E+00	5.43E+00	2.69E+01	2.30E+01	2.49E+01	2.34E+01	1.10E+01	9.95E+00	2.59E+00	2.35E+00
0.	210.00	5.03E+00	4.54E+00	2.52E+01	2.16E+01	2.44E+01	2.29E+01	1.07E+01	9.75E+00	2.25E+00	2.05E+00
0.	189.00	4.58E+00	3.93E+00	2.42E+01	2.08E+01	2.40E+01	2.27E+01	1.06E+01	9.65E+00	2.00E+00	1.82E+00
0.	157.50	3.67E+00	3.17E+00	2.33E+01	2.01E+01	2.38E+01	2.24E+01	1.05E+01	9.67E+00	1.66E+00	1.52E+00
0.	135.00	3.13E+00	2.71E+00	2.32E+01	2.01E+01	2.38E+01	2.25E+01	1.06E+01	9.78E+00	1.44E+00	1.32E+00
0.	118.12	2.77E+00	2.40E+00	2.34E+01	2.03E+01	2.39E+01	2.26E+01	1.08E+01	9.97E+00	1.28E+00	1.18E+00
0.	105.00	2.51E+00	2.19E+00	2.39E+01	2.08E+01	2.41E+01	2.29E+01	1.10E+01	1.02E+01	1.16E+00	1.07E+00
0.	85.91	2.18E+00	1.90E+00	2.54E+01	2.21E+01	2.47E+01	2.35E+01	1.15E+01	1.06E+01	9.88E-01	9.14E-01
0.	72.69	1.99E+00	1.73E+00	2.73E+01	2.38E+01	2.55E+01	2.41E+01	1.20E+01	1.12E+01	8.74E-01	8.12E-01
0.	63.00	1.87E+00	1.62E+00	2.96E+01	2.57E+01	2.63E+01	2.49E+01	1.26E+01	1.17E+01	7.94E-01	7.37E-01
0.	55.59	1.80E+00	1.56E+00	3.24E+01	2.81E+01	2.72E+01	2.58E+01	1.32E+01	1.23E+01	7.35E-01	6.82E-01
0.	49.74	1.77E+00	1.53E+00	3.56E+01	3.08E+01	2.82E+01	2.67E+01	1.39E+01	1.29E+01	6.92E-01	6.42E-01
0.	45.00	1.78E+00	1.53E+00	3.95E+01	3.40E+01	2.93E+01	2.77E+01	1.46E+01	1.36E+01	6.59E-01	6.11E-01
0.	36.35	1.92E+00	1.64E+00	5.29E+01	4.52E+01	3.26E+01	3.08E+01	1.68E+01	1.56E+01	6.12E-01	5.67E-01
0.	30.48	2.23E+00	1.88E+00	7.32E+01	6.17E+01	3.67E+01	3.45E+01	1.95E+01	1.81E+01	5.95E-01	5.50E-01
0.030	270.00	7.31E+00	6.22E+00	2.71E+01	2.30E+01	2.49E+01	2.34E+01	1.10E+01	9.92E+00	2.96E+00	2.68E+00
0.030	236.25	5.73E+00	4.91E+00	2.42E+01	2.08E+01	2.40E+01	2.26E+01	1.05E+01	9.53E+00	2.48E+00	2.25E+00
0.030	210.00	4.72E+00	4.08E+00	2.25E+01	1.94E+01	2.34E+01	2.21E+01	1.02E+01	9.30E+00	2.14E+00	1.95E+00
0.030	189.00	4.04E+00	3.50E+00	2.14E+01	1.85E+01	2.30E+01	2.18E+01	1.00E+01	9.19E+00	1.89E+00	1.74E+00
0.030	157.50	3.22E+00	2.80E+00	2.04E+01	1.78E+01	2.27E+01	2.15E+01	9.96E+00	9.14E+00	1.57E+00	1.44E+00
0.030	135.00	2.73E+00	2.38E+00	2.02E+01	1.77E+01	2.27E+01	2.15E+01	1.00E+01	9.24E+00	1.35E+00	1.25E+00
0.030	118.12	2.41E+00	2.11E+00	2.04E+01	1.78E+01	2.27E+01	2.16E+01	1.02E+01	9.40E+00	1.20E+00	1.11E+00
0.030	105.00	2.19E+00	1.92E+00	2.08E+01	1.82E+01	2.30E+01	2.18E+01	1.04E+01	9.59E+00	1.09E+00	1.01E+00
0.030	85.91	1.91E+00	1.67E+00	2.22E+01	1.94E+01	2.36E+01	2.24E+01	1.08E+01	1.01E+01	9.32E-01	8.64E-01
0.030	72.69	1.73E+00	1.52E+00	2.38E+01	2.08E+01	2.42E+01	2.30E+01	1.13E+01	1.05E+01	8.24E-01	7.66E-01
0.030	63.00	1.62E+00	1.42E+00	2.57E+01	2.25E+01	2.50E+01	2.37E+01	1.19E+01	1.10E+01	7.47E-01	6.95E-01
0.030	55.59	1.55E+00	1.36E+00	2.79E+01	2.44E+01	2.58E+01	2.45E+01	1.24E+01	1.16E+01	6.90E-01	6.43E-01
0.030	49.74	1.52E+00	1.33E+00	3.06E+01	2.67E+01	2.67E+01	2.54E+01	1.30E+01	1.21E+01	6.49E-01	6.04E-01
0.030	45.00	1.52E+00	1.32E+00	3.38E+01	2.94E+01	2.77E+01	2.63E+01	1.37E+01	1.28E+01	6.17E-01	5.75E-01
0.030	36.35	1.63E+00	1.40E+00	4.48E+01	3.86E+01	3.08E+01	2.91E+01	1.57E+01	1.46E+01	5.72E-01	5.32E-01
0.030	30.48	1.87E+00	1.59E+00	6.13E+01	5.22E+01	3.45E+01	3.25E+01	1.82E+01	1.69E+01	5.54E-01	5.14E-01
0.050	270.00	6.86E+00	5.80E+00	2.54E+01	2.17E+01	2.44E+01	2.29E+01	1.06E+01	9.64E+00	2.87E+00	2.60E+00
0.050	236.25	5.38E+00	4.62E+00	2.28E+01	1.96E+01	2.35E+01	2.21E+01	1.02E+01	9.25E+00	2.40E+00	2.18E+00
0.050	210.00	4.44E+00	3.84E+00	2.12E+01	1.83E+01	2.29E+01	2.16E+01	9.89E+00	9.03E+00	2.08E+00	1.90E+00
0.050	189.00	3.81E+00	3.30E+00	2.02E+01	1.75E+01	2.25E+01	2.13E+01	9.73E+00	8.91E+00	1.84E+00	1.68E+00
0.050	157.50	3.03E+00	2.64E+00	1.92E+01	1.68E+01	2.22E+01	2.10E+01	9.66E+00	8.90E+00	1.52E+00	1.40E+00
0.050	135.00	2.57E+00	2.25E+00	1.91E+01	1.67E+01	2.22E+01	2.10E+01	9.74E+00	8.99E+00	1.32E+00	1.21E+00
0.050	118.12	2.27E+00	1.99E+00	1.93E+01	1.69E+01	2.23E+01	2.12E+01	9.91E+00	9.16E+00	1.17E+00	1.08E+00
0.050	105.00	2.06E+00	1.81E+00	1.97E+01	1.72E+01	2.25E+01	2.14E+01	1.01E+01	9.35E+00	1.06E+00	9.82E-01
0.050	85.91	1.80E+00	1.58E+00	2.09E+01	1.84E+01	2.31E+01	2.20E+01	1.06E+01	9.81E+00	9.07E-01	8.42E-01
0.050	72.69	1.64E+00	1.44E+00	2.25E+01	1.98E+01	2.38E+01	2.26E+01	1.11E+01	1.03E+01	8.05E-01	7.49E-01
0.050	63.00	1.54E+00	1.35E+00	2.45E+01	2.15E+01	2.45E+01	2.33E+01	1.16E+01	1.08E+01	7.32E-01	6.82E-01
0.050	55.59	1.49E+00	1.31E+00	2.68E+01	2.35E+01	2.54E+01	2.42E+01	1.22E+01	1.14E+01	6.79E-01	6.33E-01
0.050	49.74	1.47E+00	1.29E+00	2.96E+01	2.59E+01	2.64E+01	2.51E+01	1.29E+01	1.20E+01	6.40E-01	5.97E-01
0.050	45.00	1.48E+00	1.29E+00	3.29E+01	2.87E+01	2.75E+01	2.61E+01	1.36E+01	1.27E+01	6.11E-01	5.69E-01
0.050	36.35	1.61E+00	1.39E+00	4.44E+01	3.83E+01	3.07E+01	2.90E+01	1.57E+01	1.46E+01	5.71E-01	5.31E-01
0.050	30.48	1.89E+00	1.61E+00	6.19E+01	5.28E+01	3.46E+01	3.27E+01	1.83E+01	1.70E+01	5.57E-01	5.18E-01
0.075	270.00	6.44E+00	5.52E+00	2.38E+01	2.04E+01	2.38E+01	2.24E+01	1.03E+01	9.36E+00	2.78E+00	2.53E+00
0.075	236.25	5.05E+00	4.35E+00	2.14E+01	1.84E+01	2.29E+01	2.16E+01	9.85E+00	8.99E+00	2.33E+00	2.12E+00
0.075	210.00	4.17E+00	3.62E+00	1.99E+01	1.73E+01	2.24E+01	2.11E+01	9.61E+00	8.77E+00	2.02E+00	1.84E+00
0.075	189.00	3.53E+00	3.12E+00	1.90E+01	1.65E+01	2.20E+01	2.09E+01	9.48E+00	8.69E+00	1.79E+00	1.64E+00
0.075	157.50	2.87E+00	2.51E+00	1.82E+01	1.59E+01	2.18E+01	2.07E+01	9.44E+00	8.68E+00	1.49E+00	1.37E+00
0.075	135.00	2.45E+00	2.15E+00	1.81E+01	1.59E+01	2.18E+01	2.07E+01	9.53E+00	8.80E+00	1.29E+00	1.19E+00

5.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	H/E U235 DENSITY	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.075	118.12	2.17E+00	1.91E+00	1.84E+01	1.61E+01	2.19E+01	2.08E+01	9.72E+00	8.98E+00	1.15E+00	1.06E+00
0.075	105.00	1.98E+00	1.74E+00	1.89E+01	1.66E+01	2.22E+01	2.11E+01	9.93E+00	9.20E+00	1.04E+00	9.66E-01
0.075	85.91	1.74E+00	1.53E+00	2.02E+01	1.78E+01	2.28E+01	2.17E+01	1.04E+01	9.69E+00	8.96E-01	8.32E-01
0.075	72.69	1.60E+00	1.41E+00	2.20E+01	1.94E+01	2.36E+01	2.25E+01	1.10E+01	1.02E+01	7.99E-01	7.44E-01
0.075	63.00	1.53E+00	1.34E+00	2.42E+01	2.13E+01	2.45E+01	2.33E+01	1.16E+01	1.08E+01	7.31E-01	6.81E-01
0.075	55.59	1.49E+00	1.31E+00	2.68E+01	2.35E+01	2.54E+01	2.42E+01	1.23E+01	1.14E+01	6.81E-01	6.35E-01
0.075	49.74	1.49E+00	1.30E+00	2.99E+01	2.62E+01	2.65E+01	2.52E+01	1.30E+01	1.21E+01	6.45E-01	6.01E-01
0.075	45.00	1.51E+00	1.32E+00	3.36E+01	2.93E+01	2.77E+01	2.63E+01	1.37E+01	1.28E+01	6.18E-01	5.77E-01
0.075	36.35	1.70E+00	1.46E+00	4.67E+01	4.02E+01	3.12E+01	2.96E+01	1.61E+01	1.50E+01	5.84E-01	5.45E-01
0.075	30.48	2.05E+00	1.74E+00	6.71E+01	5.70E+01	3.56E+01	3.36E+01	1.90E+01	1.76E+01	5.78E-01	5.37E-01
0.100	270.00	6.11E+00	5.25E+00	2.26E+01	1.95E+01	2.34E+01	2.20E+01	1.01E+01	9.13E+00	2.72E+00	2.47E+00
0.100	236.25	4.81E+00	4.16E+00	2.03E+01	1.76E+01	2.25E+01	2.13E+01	9.64E+00	8.78E+00	2.28E+00	2.08E+00
0.100	210.00	4.00E+00	3.47E+00	1.90E+01	1.65E+01	2.20E+01	2.08E+01	9.41E+00	8.61E+00	1.98E+00	1.81E+00
0.100	189.00	3.44E+00	3.00E+00	1.82E+01	1.59E+01	2.17E+01	2.06E+01	9.30E+00	8.52E+00	1.76E+00	1.61E+00
0.100	157.50	2.76E+00	2.42E+00	1.75E+01	1.54E+01	2.15E+01	2.04E+01	9.27E+00	8.55E+00	1.46E+00	1.35E+00
0.100	135.00	2.37E+00	2.08E+00	1.76E+01	1.54E+01	2.15E+01	2.05E+01	9.41E+00	8.68E+00	1.27E+00	1.17E+00
0.100	118.12	2.12E+00	1.86E+00	1.79E+01	1.58E+01	2.17E+01	2.07E+01	9.61E+00	8.90E+00	1.14E+00	1.05E+00
0.100	105.00	1.94E+00	1.71E+00	1.85E+01	1.63E+01	2.20E+01	2.10E+01	9.85E+00	9.14E+00	1.03E+00	9.59E-01
0.100	85.91	1.72E+00	1.52E+00	2.00E+01	1.77E+01	2.28E+01	2.17E+01	1.04E+01	9.68E+00	8.95E-01	8.32E-01
0.100	72.69	1.61E+00	1.41E+00	2.21E+01	1.94E+01	2.36E+01	2.25E+01	1.10E+01	1.03E+01	8.02E-01	7.47E-01
0.100	63.00	1.55E+00	1.36E+00	2.46E+01	2.16E+01	2.46E+01	2.34E+01	1.17E+01	1.09E+01	7.38E-01	6.88E-01
0.100	55.59	1.53E+00	1.34E+00	2.75E+01	2.41E+01	2.57E+01	2.45E+01	1.24E+01	1.16E+01	6.92E-01	6.45E-01
0.100	49.74	1.55E+00	1.35E+00	3.11E+01	2.72E+01	2.69E+01	2.56E+01	1.32E+01	1.24E+01	6.59E-01	6.15E-01
0.100	45.00	1.59E+00	1.39E+00	3.54E+01	3.08E+01	2.82E+01	2.68E+01	1.41E+01	1.32E+01	6.35E-01	5.93E-01
0.100	36.35	1.84E+00	1.59E+00	5.07E+01	4.36E+01	3.22E+01	3.05E+01	1.67E+01	1.56E+01	6.08E-01	5.66E-01
0.100	30.48	2.31E+00	1.96E+00	7.59E+01	6.41E+01	3.73E+01	3.51E+01	2.00E+01	1.86E+01	6.10E-01	5.66E-01
0.200	270.00	5.34E+00	4.62E+00	1.98E+01	1.71E+01	2.23E+01	2.10E+01	9.45E+00	8.61E+00	2.55E+00	2.32E+00
0.200	236.25	4.27E+00	3.71E+00	1.81E+01	1.57E+01	2.16E+01	2.04E+01	9.14E+00	8.34E+00	2.16E+00	1.97E+00
0.200	210.00	3.60E+00	3.14E+00	1.72E+01	1.50E+01	2.12E+01	2.01E+01	9.01E+00	8.24E+00	1.89E+00	1.73E+00
0.200	189.00	3.16E+00	2.76E+00	1.67E+01	1.46E+01	2.10E+01	2.00E+01	8.98E+00	8.25E+00	1.70E+00	1.56E+00
0.200	157.50	2.62E+00	2.30E+00	1.66E+01	1.46E+01	2.11E+01	2.00E+01	9.13E+00	8.42E+00	1.44E+00	1.33E+00
0.200	135.00	2.31E+00	2.04E+00	1.71E+01	1.51E+01	2.14E+01	2.04E+01	9.41E+00	8.70E+00	1.27E+00	1.17E+00
0.200	118.12	2.13E+00	1.88E+00	1.80E+01	1.59E+01	2.18E+01	2.08E+01	9.77E+00	9.07E+00	1.15E+00	1.07E+00
0.200	105.00	2.01E+00	1.77E+00	1.92E+01	1.69E+01	2.24E+01	2.13E+01	1.02E+01	9.45E+00	1.07E+00	9.92E-01
0.200	85.91	1.90E+00	1.67E+00	2.21E+01	1.95E+01	2.37E+01	2.25E+01	1.11E+01	1.03E+01	9.51E-01	8.86E-01
0.200	72.69	1.88E+00	1.65E+00	2.59E+01	2.28E+01	2.51E+01	2.39E+01	1.21E+01	1.13E+01	8.78E-01	8.19E-01
0.200	63.00	1.93E+00	1.69E+00	3.06E+01	2.68E+01	2.68E+01	2.54E+01	1.32E+01	1.23E+01	8.30E-01	7.75E-01
0.200	55.59	2.03E+00	1.77E+00	3.66E+01	3.19E+01	2.86E+01	2.72E+01	1.44E+01	1.34E+01	7.99E-01	7.45E-01
0.200	49.74	2.14E+00	1.86E+00	4.30E+01	3.73E+01	3.04E+01	2.88E+01	1.55E+01	1.45E+01	7.73E-01	7.21E-01
0.200	45.00	2.36E+00	2.03E+00	5.25E+01	4.52E+01	3.27E+01	3.09E+01	1.70E+01	1.59E+01	7.67E-01	7.14E-01
0.200	36.35	2.37E+00	2.81E+00	9.26E+01	7.74E+01	4.00E+01	3.75E+01	2.18E+01	2.02E+01	7.94E-01	7.34E-01
0.200	30.48	5.62E+00	4.48E+00	1.84E+02	1.47E+02	5.11E+01	4.72E+01	2.91E+01	2.66E+01	8.86E-01	8.07E-01
0.300	270.00	4.99E+00	4.34E+00	1.85E+01	1.61E+01	2.18E+01	2.06E+01	9.19E+00	8.38E+00	2.48E+00	2.26E+00
0.300	236.25	4.06E+00	3.54E+00	1.72E+01	1.50E+01	2.12E+01	2.01E+01	8.99E+00	8.22E+00	2.12E+00	1.94E+00
0.300	210.00	3.49E+00	3.06E+00	1.66E+01	1.46E+01	2.10E+01	2.00E+01	8.95E+00	8.22E+00	1.88E+00	1.73E+00
0.300	189.00	3.11E+00	2.74E+00	1.65E+01	1.45E+01	2.10E+01	2.00E+01	9.02E+00	8.30E+00	1.70E+00	1.57E+00
0.300	157.50	2.68E+00	2.36E+00	1.70E+01	1.50E+01	2.13E+01	2.03E+01	9.36E+00	8.65E+00	1.47E+00	1.36E+00
0.300	135.00	2.46E+00	2.16E+00	1.82E+01	1.60E+01	2.19E+01	2.09E+01	9.83E+00	9.11E+00	1.33E+00	1.23E+00
0.300	118.12	2.35E+00	2.07E+00	1.99E+01	1.75E+01	2.27E+01	2.16E+01	1.04E+01	9.66E+00	1.23E+00	1.14E+00
0.300	105.00	2.30E+00	2.03E+00	2.19E+01	1.93E+01	2.36E+01	2.25E+01	1.10E+01	1.03E+01	1.16E+00	1.08E+00
0.300	85.91	2.34E+00	2.05E+00	2.73E+01	2.39E+01	2.56E+01	2.44E+01	1.24E+01	1.16E+01	1.07E+00	9.95E-01
0.300	72.69	2.52E+00	2.22E+00	3.46E+01	3.02E+01	2.80E+01	2.66E+01	1.40E+01	1.31E+01	1.02E+00	9.51E-01
0.300	63.00	2.82E+00	2.44E+00	4.47E+01	3.87E+01	3.08E+01	2.92E+01	1.58E+01	1.48E+01	9.97E-01	9.30E-01
0.300	55.59	3.27E+00	2.82E+00	5.89E+01	5.04E+01	3.40E+01	3.22E+01	1.80E+01	1.67E+01	9.98E-01	9.28E-01
0.300	49.74	3.95E+00	3.33E+00	7.95E+01	6.70E+01	3.79E+01	3.57E+01	2.05E+01	1.90E+01	1.02E+00	9.44E-01
0.300	45.00	4.98E+00	4.12E+00	1.11E+02	9.16E+01	4.27E+01	3.99E+01	2.36E+01	2.17E+01	1.06E+00	9.79E-01
0.300	36.35	1.17E+01	8.75E+00	3.21E+02	2.42E+02	6.21E+01	5.62E+01	3.62E+01	3.24E+01	1.32E+00	1.18E+00
0.300	30.48	4.83E+01	2.73E+01	1.59E+03	8.94E+02	1.08E+02	8.85E+01	6.60E+01	5.34E+01	2.01E+00	1.63E+00
0.400	270.00	4.84E+00	4.22E+00	1.79E+01	1.56E+01	2.15E+01	2.04E+01	9.13E+00	8.34E+00	2.46E+00	2.25E+00
0.400	236.25	4.02E+00	3.52E+00	1.70E+01	1.49E+01	2.12E+01	2.01E+01	9.04E+00	8.28E+00	2.14E+00	1.96E+00
0.400	210.00	3.53E+00	3.10E+00	1.68E+01	1.48E+01	2.12E+01	2.01E+01	9.11E+00	8.39E+00	1.91E+00	1.76E+00
0.400	189.00	3.22E+00	2.83E+00	1.70E+01	1.50E+01	2.13E+01	2.02E+01	9.29E+00	8.57E+00	1.76E+00	1.62E+00
0.400	157.50	2.89E+00	2.55E+00	1.83E+01	1.62E+01	2.20E+01	2.09E+01	9.85E+00	9.12E+00	1.55E+00	1.44E+00
0.400	135.00	2.75E+00	2.42E+00	2.03E+01	1.79E+01	2.29E+01	2.18E+01	1.05E+01	9.79E+00	1.42E+00	1.32E+00
0.400	118.12	2.74E+00	2.41E+00	2.32E+01	2.04E+01	2.41E+01	2.29E+01	1.14E+01	1.06E+01	1.34E+00	1.25E+00
0.400	105.00	2.81E+00	2.47E+00	2.68E+01	2.35E+01	2.55E+01	2.42E+01	1.23E+01	1.15E+01	1.29E+00	1.20E+00
0.400	85.91	3.16E+00	2.79E+00	3.68E+01	3.20E+01	2.87E+01	2.72E+01	1.44E+01	1.35E+01	1.24E+00	1.16E+00
0.400	72.69	3.79E+00	3.26E+00	5.21E+01	4.49E+01	3.26E+01	3.08E+01	1.70E+01	1.58E+01	1.24E+00	1.15E+00
0.400	63.00	4.83E+00	4.05E+00	7.67E+01	6.49E+01	3.74E+01	3.52E+01	2.02E+01	1.87E+01	1.27E+00	1.18E+00
0.400	55.59	6.98E+00	5.43E+00	1.18E+02	9.76E+01	4.37E+01	4.08E+01	2.43E+01	2.24E+01	1.35E+00	1.24E+00
0.400	49.74	1.03E+01	7.75E+00	1.98E+02	1.57E+02	5.24E+01	4.83E+01	2.99E+01	2.72E+01	1.49E+00	1.35E+00
0.400	45.00	1.68E+01	1.24E+01	3.73E+02	2.76E+02	6.55E+01	5.89E+01	3.84E+01	3.41E+01	1.73E+00	1.54E+00
0.400	36.35	2.27E+03	1.83E+02	6.24E+04	5.02E+03	3.74E+02	1.60E+02	2.40E+02	9.99E+01	8.71E+00	3.63E+00
0.600	270.00	4.89E+00	4.27E+00	1.81E+01	1.58E+01	2.17E+01	2.06E+01	9.36E+00	8.58E+00	2.53E+00	2.32E+00
0.600	236.25	4.26E+00	3.73E+00	1.80E+01	1.58E+01	2.17E+01	2.07E+01	9.52E+00	8.76E+00	2.25E+00	2.07E+00
0.600	210.00	3.92E+00	3.44E+00	1.87E+01	1.64E+01	2.21E+01	2.10E+01	9.85E+00	9.09E+00	2.07E+00	1.91E+00
0.600	189.00	3.75E+00	3.30E+00	1.98E+01	1.74E+01	2.27E+01	2.16E+01	1.03E+01	9.54E+00	1.95E+00	1.80E+00
0.600	157.50	3.72E+00	3.27E+00	2.36E+01	2.08E+01	2.43E+01	2.31E+01	1.15E+01	1.06E+01	1.80E+00	1.68E+00
0.600	135.00	3.96E+00	3.46E+00	2.93E+01	2.57E+01	2.63E+01	2.51E+01	1.29E+01	1.20E+01	1.74E+00	1.62E+00
0.600	118.12	4.35E+00	3.79E+00	3.69E+01	3.21E+01	2.87E+01	2.72E+01	1.44E+01	1.35E+01	1.71E+00	1.59E+00
0.600	105.00	5.06E+00	4.37E+00	4.82E+01	4.16E+01	3.17E+01	3.00E+01	1.64E+01	1.53E+01	1.72E+00	1.61E+00
0.600	85.91	7.66E+00	6.42E+00	8.92E+01	7.47E+01	3.96E+01	3.71E+01	2.16E+01	2.00E+01	1.86E+00	1.72E+00
0.600	72.69	1.39E+01	1.10E+01	1.91E+02	1.52E+02	5.18E+01	4.78E+01	2.96E+01	2.69E+01	2.15E+00	1.96E+00
0.600	63.00	3.53E+01	2.46E+01	5.60E+02	3.91E+02	7.54E+01	6.65E+01	4.50E+01	3.92E+01	2.83E+00	2.47E+00
0.600	55.59	3.08E+02	1.12E+02	5.54E+03	2.01E+03	1.65E+02	1.17E+02	1.04E+02	7.21E+01	5.76E+00	4.01E+00

CRITICAL AND SAFE (DELTA KEFF = 0.020) MASSES AND DIMENSIONS OF URANIUM OXIDE - WATER SYSTEMS IN WHICH THE METAL HAS A DENSITY OF 10.90 GRAMS PER CUBIC CENTIMETER

0.80% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.300	33.82		1.26E+04		3.73E+05		6.80E+02		4.40E+02		1.49E+01
0.300	30.42		5.75E+03		1.89E+05		5.42E+02		3.49E+02		1.06E+01
0.400	38.08		4.29E+03		1.13E+05		4.55E+02		2.93E+02		1.11E+01
0.400	33.82		6.23E+02		1.84E+04		2.48E+02		1.57E+02		5.31E+00
0.400	30.42		5.77E+02		1.90E+04		2.50E+02		1.59E+02		4.83E+00
0.400	27.64		1.42E+03		5.15E+04		3.50E+02		2.24E+02		6.20E+00
0.600	40.64		9.33E+02		2.30E+04		2.67E+02		1.69E+02		6.88E+00
0.600	38.08		3.48E+02		9.13E+03		1.95E+02		1.23E+02		4.67E+00
0.600	33.82	3.61E+03	2.01E+02	1.07E+05	5.94E+03	4.47E+02	1.69E+02	2.88E+02	1.06E+02	9.73E+00	3.57E+00
0.600	30.42	4.29E+04	2.23E+02	1.41E+06	7.33E+03	1.06E+03	1.81E+02	6.89E+02	1.14E+02	2.10E+01	3.47E+00
0.600	27.64		4.46E+02		1.62E+04		2.37E+02		1.50E+02		4.15E+00
0.600	25.32		3.32E+04		1.31E+06		1.04E+03		6.73E+02		1.70E+01
0.800	43.57		1.46E+03		3.36E+04		3.03E+02		1.93E+02		8.41E+00
0.800	40.64	5.24E+06	3.32E+02	1.29E+08	8.16E+03	4.80E+03	1.88E+02	3.13E+03	1.18E+02	1.27E+02	4.80E+00
0.800	38.08	1.76E+03	1.93E+02	4.61E+04	5.12E+03	3.37E+02	1.60E+02	2.16E+02	1.00E+02	8.21E+00	3.81E+00
0.800	33.82	9.51E+02	1.48E+02	2.81E+04	4.37E+03	2.96E+02	1.52E+02	1.82E+02	9.49E+01	6.16E+00	3.21E+00
0.800	30.42	5.43E+03	1.95E+02	1.78E+05	6.41E+03	5.32E+02	1.73E+02	3.43E+02	1.09E+02	1.04E+01	3.31E+00
0.800	27.64		5.40E+02		1.95E+04		2.53E+02		1.61E+02		4.44E+00
1.000	43.57		5.54E+02		1.27E+04		2.18E+02		1.38E+02		6.00E+00
1.000	40.64	2.36E+03	2.25E+02	5.80E+04	5.53E+03	3.64E+02	1.65E+02	2.33E+02	1.03E+02	9.48E+00	4.18E+00
1.000	38.08	8.30E+02	1.56E+02	2.18E+04	4.09E+03	2.62E+02	1.49E+02	1.67E+02	9.25E+01	6.34E+00	3.52E+00
1.000	33.82	8.37E+02	1.43E+02	2.48E+04	4.24E+03	2.74E+02	1.51E+02	1.74E+02	9.39E+01	5.90E+00	3.17E+00
1.000	30.42		2.44E+02		8.04E+03		1.87E+02		1.18E+02		3.58E+00
1.000	27.64		2.08E+03		7.54E+04		3.98E+02		2.56E+02		7.06E+00
1.200	46.95		1.05E+04		2.24E+05		5.74E+02		3.70E+02		1.74E+01
1.200	43.57		3.79E+02		8.69E+03		1.92E+02		1.21E+02		5.26E+00
1.200	40.64	1.28E+03	1.92E+02	3.16E+04	4.73E+03	2.97E+02	1.56E+02	1.89E+02	9.75E+01	7.70E+00	3.96E+00
1.200	38.08	7.23E+02	1.49E+02	1.90E+04	3.92E+03	2.50E+02	1.47E+02	1.59E+02	9.12E+01	6.06E+00	3.47E+00
1.200	33.82	1.42E+03	1.70E+02	4.21E+04	5.02E+03	3.27E+02	1.60E+02	2.09E+02	9.98E+01	7.08E+00	3.37E+00
1.200	30.42		4.79E+02		1.57E+04		2.35E+02		1.49E+02		4.53E+00
1.500	46.95		1.86E+03		3.96E+04		3.21E+02		2.05E+02		9.60E+00
1.500	43.57	9.16E+03	3.13E+02	2.10E+05	7.18E+03	5.62E+02	1.80E+02	3.62E+02	1.13E+02	1.58E+01	4.92E+00
1.500	40.64	1.33E+03	1.97E+02	3.27E+04	4.84E+03	3.01E+02	1.58E+02	1.92E+02	9.84E+01	7.79E+00	4.00E+00
1.500	38.08	1.18E+03	1.80E+02	3.11E+04	4.71E+03	2.98E+02	1.56E+02	1.89E+02	9.75E+01	7.18E+00	3.71E+00
1.500	33.82	1.26E+04	3.46E+02	3.73E+05	1.02E+04	6.80E+02	2.03E+02	4.40E+02	1.28E+02	1.49E+01	4.34E+00

0.95% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	40.16		6.11E+04		1.52E+06		1.09E+03		7.06E+02		2.84E+01
0.	36.12		8.08E+03		2.24E+05		5.73E+02		3.69E+02		1.33E+01
0.100	48.26		1.47E+05		3.05E+06		1.37E+03		8.92E+02		4.30E+01
0.100	45.22		7.68E+02		1.70E+04		2.41E+02		1.52E+02		6.88E+00
0.100	40.16	2.40E+03	2.03E+02	6.12E+04	5.06E+03	3.71E+02	1.60E+02	2.37E+02	9.94E+01	9.53E+00	3.99E+00
0.100	36.12	7.06E+02	1.31E+02	1.93E+04	3.63E+03	2.52E+02	1.43E+02	1.63E+02	8.83E+01	5.78E+00	3.19E+00
0.100	32.82	6.74E+02	1.21E+02	2.09E+04	3.68E+03	2.57E+02	1.43E+02	1.63E+02	8.89E+01	5.35E+00	2.92E+00
0.100	30.07	1.44E+03	1.42E+02	4.80E+04	4.71E+03	3.42E+02	1.56E+02	2.19E+02	9.72E+01	6.57E+00	2.32E+00
0.100	25.76		4.44E+02		1.72E+04		2.42E+02		1.53E+02		3.95E+00
0.200	51.74		4.98E+03		9.62E+04		4.32E+02		2.77E+02		1.43E+01
0.200	48.25	2.19E+06	3.63E+02	4.55E+07	7.64E+03	3.33E+03	1.84E+02	2.21E+03	1.15E+02	1.06E+02	5.54E+00
0.200	45.22	8.06E+02	1.63E+02	1.78E+04	3.59E+03	2.45E+02	1.42E+02	1.55E+02	8.78E+01	7.03E+00	3.97E+00
0.200	40.16	2.11E+02	8.01E+01	5.26E+03	1.99E+03	1.62E+02	1.16E+02	1.01E+02	7.10E+01	4.05E+00	2.65E+00
0.200	36.12	1.40E+02	5.47E+01	3.86E+03	1.63E+03	1.46E+02	1.09E+02	9.04E+01	6.64E+01	3.27E+00	2.40E+00
0.200	32.82	1.29E+02	5.47E+01	3.94E+03	1.67E+03	1.47E+02	1.09E+02	9.11E+01	6.68E+01	2.93E+00	2.17E+00
0.200	30.07	1.52E+02	5.83E+01	5.57E+03	1.94E+03	1.60E+02	1.15E+02	9.98E+01	7.06E+01	3.00E+00	2.12E+00
0.200	25.76	5.93E+02	9.24E+01	2.31E+04	3.86E+03	2.67E+02	1.46E+02	1.70E+02	9.07E+01	4.38E+00	2.34E+00
0.200	22.53		4.24E+02		1.84E+04		2.50E+02		1.58E+02		3.57E+00
0.300	51.74		4.56E+02		8.81E+03		1.93E+02		1.21E+02		6.24E+00
0.300	48.25	6.04E+02	1.52E+02	1.25E+04	3.15E+03	2.17E+02	1.36E+02	1.37E+02	8.38E+01	6.60E+00	4.04E+00
0.300	45.22	2.20E+02	8.86E+01	4.97E+03	1.95E+03	1.53E+02	1.15E+02	9.88E+01	7.05E+01	4.47E+00	3.19E+00
0.300	40.16	1.04E+02	5.10E+01	2.58E+03	1.28E+03	1.27E+02	9.99E+01	7.81E+01	6.04E+01	3.14E+00	2.43E+00
0.300	36.12	7.85E+01	4.09E+01	2.16E+03	1.13E+03	1.20E+02	9.58E+01	7.33E+01	5.78E+01	2.65E+00	2.09E+00
0.300	32.82	7.42E+01	3.33E+01	2.26E+03	1.17E+03	1.22E+02	9.68E+01	7.47E+01	5.86E+01	2.49E+00	1.92E+00
0.300	30.07	8.44E+01	4.06E+01	2.81E+03	1.35E+03	1.31E+02	1.02E+02	8.08E+01	6.19E+01	2.43E+00	1.86E+00
0.300	25.76	2.11E+02	6.46E+01	8.17E+03	2.51E+03	1.88E+02	1.20E+02	1.18E+02	7.78E+01	3.09E+00	2.00E+00
0.300	22.53		1.39E+02		8.83E+03		1.93E+02		1.22E+02		2.74E+00
0.400	55.75		2.50E+03		4.93E+04		3.37E+02		2.15E+02		1.20E+01
0.400	51.74	1.13E+03	2.11E+02	2.30E+04	4.03E+03	2.66E+02	1.48E+02	1.69E+02	9.18E+01	8.74E+00	4.75E+00
0.400	48.26	2.40E+02	9.80E+01	5.10E+03	2.09E+03	1.60E+02	1.16E+02	9.95E+01	7.10E+01	4.80E+00	3.43E+00
0.400	45.22	1.28E+02	6.22E+01	2.34E+03	1.33E+03	1.31E+02	1.02E+02	8.07E+01	6.20E+01	3.65E+00	2.80E+00
0.400	40.16	7.14E+01	3.78E+01	1.73E+03	9.71E+02	1.12E+02	9.15E+01	6.83E+01	5.49E+01	2.74E+00	2.21E+00
0.400	36.12	5.75E+01	3.30E+01	1.52E+03	9.13E+02	1.08E+02	8.93E+01	6.57E+01	5.34E+01	2.37E+00	1.93E+00
0.400	32.82	5.66E+01	3.17E+01	1.72E+03	9.65E+02	1.11E+02	9.07E+01	6.77E+01	5.46E+01	2.22E+00	1.74E+00
0.400	30.07	6.47E+01	3.41E+01	2.16E+03	1.13E+03	1.23E+02	9.59E+01	7.36E+01	5.81E+01	2.21E+00	1.75E+00

0.95% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.400	25.76	1.57E+02	5.58E+01	6.08E+03	2.17E+03	1.70E+02	1.20E+02	1.07E+02	7.38E+01	2.75E+00	1.90E+00
0.400	22.53		1.79E+02		7.94E+03		1.86E+02		1.17E+02		2.64E+00
0.600	55.75	5.44E+03	3.42E+02	9.76E+04	6.14E+03	4.34E+02	1.70E+02	2.78E+02	1.06E+02	1.55E+01	5.92E+00
0.600	51.74	2.57E+02	1.04E+02	4.98E+03	2.00E+03	1.59E+02	1.16E+02	9.87E+01	7.10E+01	5.11E+00	3.67E+00
0.600	48.26	1.14E+02	5.95E+01	2.37E+03	1.23E+03	1.23E+02	9.85E+01	7.56E+01	5.94E+01	3.65E+00	2.87E+00
0.600	45.22	7.48E+01	4.30E+01	1.65E+03	9.50E+02	1.09E+02	9.01E+01	6.64E+01	5.40E+01	3.00E+00	2.44E+00
0.600	40.16	4.98E+01	3.06E+01	1.24E+03	7.61E+02	9.88E+01	8.35E+01	5.98E+01	4.98E+01	2.40E+00	2.00E+00
0.600	36.12	4.42E+01	2.71E+01	1.22E+03	7.51E+02	9.84E+01	8.32E+01	5.96E+01	4.97E+01	2.15E+00	1.80E+00
0.600	32.82	4.66E+01	2.76E+01	1.42E+03	8.40E+02	1.04E+02	8.65E+01	6.31E+01	5.19E+01	2.07E+00	1.70E+00
0.600	30.07	5.68E+01	3.12E+01	1.89E+03	1.04E+03	1.14E+02	9.31E+01	7.01E+01	5.62E+01	2.11E+00	1.69E+00
0.600	25.76	1.81E+02	6.08E+01	7.02E+03	2.36E+03	1.79E+02	1.23E+02	1.12E+02	7.61E+01	2.89E+00	1.96E+00
0.600	22.53		3.96E+02		1.76E+04		2.44E+02		1.55E+02		3.49E+00
0.800	60.45		2.86E+04		4.72E+05		7.36E+02		4.75E+02		2.87E+01
0.800	55.75	6.60E+02	1.80E+02	1.18E+04	3.23E+03	2.13E+02	1.37E+02	1.34E+02	8.44E+01	7.47E+00	4.70E+00
0.800	51.74	1.50E+02	7.40E+01	2.89E+03	1.43E+03	1.32E+02	1.04E+02	8.12E+01	6.27E+01	4.20E+00	3.25E+00
0.800	48.26	8.19E+01	4.71E+01	1.70E+03	9.76E+02	1.10E+02	9.09E+01	6.70E+01	5.45E+01	3.23E+00	2.63E+00
0.800	45.22	5.87E+01	3.59E+01	1.30E+03	7.94E+02	1.00E+02	8.68E+01	6.08E+01	5.06E+01	2.75E+00	2.29E+00
0.800	40.16	4.36E+01	2.77E+01	1.09E+03	6.89E+02	9.45E+01	8.07E+01	5.70E+01	4.80E+01	2.29E+00	1.93E+00
0.800	36.12	4.20E+01	2.62E+01	1.16E+03	7.26E+02	9.68E+01	8.23E+01	5.86E+01	4.91E+01	2.12E+00	1.77E+00
0.800	32.82	4.86E+01	2.86E+01	1.48E+03	8.73E+02	1.05E+02	8.77E+01	6.42E+01	5.28E+01	2.11E+00	1.73E+00
0.800	30.07	6.86E+01	3.59E+01	2.28E+03	1.19E+03	1.22E+02	9.77E+01	7.52E+01	5.93E+01	2.26E+00	1.78E+00
0.800	25.76	6.44E+02	1.06E+02	2.50E+04	4.11E+03	2.75E+02	1.49E+02	1.75E+02	9.30E+01	4.51E+00	2.40E+00
1.000	60.45		1.40E+03		2.31E+04		2.67E+02		1.69E+02		1.02E+01
1.000	55.75	3.39E+02	1.29E+02	6.08E+03	2.31E+03	1.70E+02	1.22E+02	1.06E+02	7.47E+01	5.91E+00	4.16E+00
1.000	51.74	1.13E+02	6.12E+01	2.18E+03	1.18E+03	1.20E+02	9.72E+01	7.34E+01	5.86E+01	3.80E+00	3.03E+00
1.000	48.26	6.92E+01	4.17E+01	1.43E+03	8.64E+02	1.04E+02	8.72E+01	6.30E+01	5.21E+01	3.04E+00	2.52E+00
1.000	45.22	5.28E+01	3.33E+01	1.17E+03	7.35E+02	9.68E+01	8.25E+01	5.85E+01	4.92E+01	2.65E+00	2.22E+00
1.000	40.16	4.31E+01	2.75E+01	1.07E+03	6.86E+02	9.41E+01	8.06E+01	5.68E+01	4.80E+01	2.28E+00	1.93E+00
1.000	36.12	4.59E+01	2.82E+01	1.27E+03	7.80E+02	9.98E+01	8.44E+01	6.06E+01	5.06E+01	2.19E+00	1.83E+00
1.000	32.82	6.07E+01	3.39E+01	1.85E+03	1.03E+03	1.14E+02	9.30E+01	6.97E+01	5.62E+01	2.29E+00	1.85E+00
1.000	30.07	1.09E+02	4.92E+01	3.64E+03	1.64E+03	1.43E+02	1.09E+02	8.91E+01	6.67E+01	2.68E+00	2.01E+00
1.000	25.76		4.66E+02		1.81E+04		2.46E+02		1.56E+02		4.03E+00
1.200	60.45		6.38E+02		1.06E+04		2.05E+02		1.29E+02		7.77E+00
1.200	55.75	2.41E+02	1.06E+02	4.32E+03	1.89E+03	1.51E+02	1.14E+02	9.39E+01	6.96E+01	5.23E+00	3.88E+00
1.200	51.74	9.76E+01	5.53E+01	1.89E+03	1.07E+03	1.14E+02	9.38E+01	6.96E+01	5.64E+01	3.60E+00	2.92E+00
1.200	48.26	6.44E+01	3.96E+01	1.33E+03	8.21E+02	1.01E+02	8.57E+01	6.14E+01	5.12E+01	2.96E+00	2.47E+00
1.200	45.22	5.18E+01	3.29E+01	1.15E+03	7.27E+02	9.63E+01	8.23E+01	5.82E+01	4.90E+01	2.63E+00	2.22E+00
1.200	40.16	4.67E+01	2.94E+01	1.16E+03	7.32E+02	9.68E+01	8.26E+01	5.86E+01	4.94E+01	2.36E+00	1.98E+00
1.200	36.12	5.63E+01	3.31E+01	1.56E+03	9.16E+02	1.07E+02	8.92E+01	6.55E+01	5.38E+01	2.37E+00	1.94E+00
1.200	32.82	9.31E+01	4.59E+01	2.84E+03	1.40E+03	1.31E+02	1.03E+02	8.15E+01	6.30E+01	2.67E+00	2.07E+00
1.200	30.07	3.04E+02	8.73E+01	1.01E+04	2.90E+03	2.02E+02	1.33E+02	1.28E+02	8.22E+01	3.84E+00	2.47E+00
1.500	60.45	4.05E+03	3.71E+02	6.70E+04	6.13E+03	3.82E+02	1.70E+02	2.45E+02	1.06E+02	1.48E+01	6.42E+00
1.500	55.75	1.87E+02	9.05E+01	3.30E+03	1.62E+03	1.39E+02	1.08E+02	8.59E+01	6.58E+01	4.79E+00	3.67E+00
1.500	51.74	9.01E+01	5.25E+01	1.74E+03	1.01E+03	1.11E+02	9.22E+01	6.77E+01	5.54E+01	3.51E+00	2.87E+00
1.500	48.26	6.52E+01	4.02E+01	1.35E+03	8.33E+02	1.02E+02	8.62E+01	6.18E+01	5.16E+01	2.98E+00	2.49E+00
1.500	45.22	5.68E+01	3.55E+01	1.26E+03	7.86E+02	9.94E+01	8.45E+01	6.03E+01	5.06E+01	2.73E+00	2.29E+00
1.500	40.16	6.17E+01	3.67E+01	1.54E+03	9.13E+02	1.07E+02	8.91E+01	6.51E+01	5.37E+01	2.61E+00	2.16E+00
1.500	36.12	1.03E+02	5.11E+01	2.84E+03	1.41E+03	1.32E+02	1.04E+02	8.15E+01	6.33E+01	2.94E+00	2.29E+00
1.500	32.82	4.30E+02	1.08E+02	1.31E+04	3.30E+03	2.21E+02	1.38E+02	1.40E+02	8.61E+01	4.59E+00	2.83E+00
1.500	30.07		1.19E+03		3.94E+04		3.20E+02		2.05E+02		6.16E+00

1.08% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	58.82		5.95E+03		1.01E+05		4.39E+02		2.81E+02		1.65E+01
0.	54.87		4.79E+02		8.72E+03		1.92E+02		1.20E+02		6.58E+00
0.	51.41	1.60E+03	2.18E+02	3.12E+04	4.23E+03	2.95E+02	1.50E+02	1.88E+02	9.28E+01	9.65E+00	4.77E+00
0.	45.66	3.60E+02	1.11E+02	7.89E+03	2.42E+03	1.86E+02	1.24E+02	1.16E+02	7.59E+01	5.30E+00	3.47E+00
0.	41.07	2.37E+02	8.40E+01	5.77E+03	2.05E+03	1.67E+02	1.17E+02	1.04E+02	7.15E+01	4.27E+00	2.94E+00
0.	37.31	2.21E+02	7.71E+01	5.92E+03	2.07E+03	1.68E+02	1.18E+02	1.05E+02	7.19E+01	3.92E+00	2.68E+00
0.	34.19	2.65E+02	8.12E+01	7.75E+03	2.38E+03	1.85E+02	1.23E+02	1.16E+02	7.57E+01	3.96E+00	2.59E+00
0.	29.28	1.49E+03	1.36E+02	5.09E+04	4.66E+03	3.49E+02	1.55E+02	2.23E+02	9.67E+01	6.53E+00	2.83E+00
0.	25.61		5.23E+02		2.04E+04		2.56E+02		1.63E+02		4.16E+00
0.100	58.82		5.30E+02		9.01E+03		1.94E+02		1.21E+02		7.13E+00
0.100	54.87	6.35E+02	1.63E+02	1.16E+04	2.99E+03	2.11E+02	1.33E+02	1.33E+02	8.17E+01	7.29E+00	4.48E+00
0.100	51.41	2.21E+02	9.05E+01	4.30E+03	1.76E+03	1.51E+02	1.11E+02	9.35E+01	6.75E+01	4.80E+00	3.47E+00
0.100	45.66	9.25E+01	4.88E+01	2.03E+03	1.07E+03	1.17E+02	9.37E+01	7.13E+01	5.62E+01	3.25E+00	2.57E+00
0.100	41.07	6.26E+01	3.57E+01	1.52E+03	8.69E+02	1.06E+02	8.73E+01	6.43E+01	5.21E+01	2.64E+00	2.14E+00
0.100	37.31	5.35E+01	3.04E+01	1.43E+03	8.29E+02	1.04E+02	8.60E+01	6.30E+01	5.13E+01	2.35E+00	1.91E+00
0.100	34.19	5.29E+01	3.03E+01	1.55E+03	8.77E+02	1.07E+02	8.77E+01	6.49E+01	5.25E+01	2.22E+00	1.80E+00
0.100	29.28	6.82E+01	3.43E+01	2.33E+03	1.17E+03	1.23E+02	9.70E+01	7.55E+01	5.87E+01	2.21E+00	1.72E+00
0.100	25.61	1.21E+02	4.72E+01	4.74E+03	1.84E+03	1.56E+02	1.13E+02	9.75E+01	6.94E+01	2.50E+00	1.78E+00
0.200	63.33		1.02E+03		1.61E+04		2.36E+02		1.49E+02		9.42E+00
0.200	58.82	5.64E+02	1.63E+02	9.59E+03	2.77E+03	1.93E+02	1.30E+02	1.24E+02	7.96E+01	7.30E+00	4.68E+00
0.200	54.87	1.67E+02	7.93E+01	3.09E+03	1.44E+03	1.35E+02	1.04E+02	8.28E+01	6.26E+01	4.54E+00	3.44E+00
0.200	51.41	7.25E+01	5.13E+01	1.38E+03	9.72E+02	1.12E+02	9.13E+01	6.82E+01	5.45E+01	3.50E+00	2.80E+00
0.200	45.66	5.01E+01	3.11E+01	1.10E+03	6.21E+02	9.46E+01	8.32E+01	5.63E+01	4.74E+01	2.60E+00	2.17E+00
0.200	41.07	3.70E+01	2.39E+01	9.01E+02	5.82E+02	8.83E+01	7.60E+01	5.29E+01	4.48E+01	2.17E+00	1.84E+00
0.200	37.31	3.21E+01	2.03E+01	8.61E+02	5.61E+02	8.72E+01	7.51E+01	5.22E+01	4.43E+01	1.95E+00	1.65E+00
0.200	34.19	3.11E+01	2.00E+01	9.03E+02	5.83E+02	8.88E+01	7.63E+01	5.33E+01	4.51E+01	1.82E+00	1.54E+00
0.200	29.28	3.67E+01	2.20E+01	1.25E+03	7.51E+02	9.92E+01	8.32E+01	6.02E+01	4.97E+01	1.76E+00	1.46E+00
0.200	25.61	5.46E+01	2.84E+01	2.13E+03	1.11E+03	1.17E+02	9.52E+01	7.32E+01	5.76E+01	1.88E+00	1.48E+00
0.300	63.33	2.45E+03	3.04E+02	3.86E+04	4.80E+03	3.17E+02	1.57E+02	2.02E+02	9.70E+01	1.28E+01	6.14E+00

1.08% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.300	58.82	2.13E+02	9.53E+01	3.59E+03	1.62E+03	1.42E+02	1.04E+02	8.78E+01	6.53E+01	5.18E+00	3.84E+00
0.300	54.87	9.50E+01	5.33E+01	1.73E+03	9.71E+02	1.11E+02	9.06E+01	6.71E+01	5.41E+01	3.68E+00	2.97E+00
0.300	51.41	5.99E+01	3.69E+01	1.14E+03	7.19E+02	9.65E+01	8.17E+01	5.80E+01	4.83E+01	2.98E+00	2.48E+00
0.300	45.66	3.60E+01	2.40E+01	7.34E+02	5.26E+02	8.45E+01	7.34E+01	5.03E+01	4.30E+01	2.30E+00	1.96E+00
0.300	41.07	2.74E+01	1.91E+01	6.80E+02	4.65E+02	8.03E+01	7.03E+01	4.77E+01	4.11E+01	1.96E+00	1.69E+00
0.300	37.31	2.48E+01	1.70E+01	6.65E+02	4.56E+02	7.97E+01	6.99E+01	4.74E+01	4.09E+01	1.77E+00	1.53E+00
0.300	34.19	2.43E+01	1.64E+01	7.09E+02	4.81E+02	8.16E+01	7.13E+01	4.86E+01	4.19E+01	1.66E+00	1.43E+00
0.300	29.28	2.88E+01	1.83E+01	9.85E+02	6.26E+02	9.14E+01	7.82E+01	5.51E+01	4.65E+01	1.61E+00	1.36E+00
0.300	25.61	4.28E+01	2.40E+01	1.67E+03	9.37E+02	1.10E+02	8.99E+01	6.71E+01	5.42E+01	1.72E+00	1.39E+00
0.400	68.72		1.46E+04		2.13E+05		5.63E+02		3.62E+02		2.49E+01
0.400	63.38	5.63E+02	1.73E+02	8.88E+03	2.73E+03	1.93E+02	1.29E+02	1.21E+02	7.91E+01	7.66E+00	5.01E+00
0.400	58.82	1.29E+02	6.83E+01	2.13E+03	1.16E+03	1.20E+02	9.64E+01	7.32E+01	5.78E+01	4.30E+00	3.40E+00
0.400	54.87	6.77E+01	4.14E+01	1.23E+03	7.55E+02	9.85E+01	8.31E+01	5.92E+01	4.92E+01	3.25E+00	2.70E+00
0.400	51.41	4.57E+01	2.99E+01	8.90E+02	5.82E+02	8.80E+01	7.60E+01	5.25E+01	4.46E+01	2.70E+00	2.29E+00
0.400	45.66	2.94E+01	2.04E+01	6.44E+02	4.46E+02	7.88E+01	6.93E+01	4.66E+01	4.04E+01	2.13E+00	1.84E+00
0.400	41.07	2.37E+01	1.67E+01	5.76E+02	4.06E+02	7.58E+01	6.71E+01	4.48E+01	3.91E+01	1.84E+00	1.60E+00
0.400	37.31	2.15E+01	1.51E+01	5.77E+02	4.06E+02	7.59E+01	6.71E+01	4.49E+01	3.92E+01	1.68E+00	1.46E+00
0.400	34.19	2.14E+01	1.49E+01	6.27E+02	4.35E+02	7.82E+01	6.88E+01	4.64E+01	4.03E+01	1.59E+00	1.38E+00
0.400	29.28	2.64E+01	1.71E+01	9.02E+02	5.85E+02	8.87E+01	7.64E+01	5.34E+01	4.53E+01	1.56E+00	1.33E+00
0.400	25.61	4.13E+01	2.34E+01	1.61E+03	9.15E+02	1.08E+02	8.91E+01	6.63E+01	5.37E+01	1.70E+00	1.38E+00
0.600	68.72		5.90E+02		8.58E+03		1.91E+02		1.19E+02		8.18E+00
0.600	63.38	1.98E+02	9.50E+01	3.12E+03	1.50E+03	1.35E+02	1.05E+02	8.31E+01	6.34E+01	5.27E+00	4.02E+00
0.600	58.82	7.62E+01	4.66E+01	1.30E+03	7.92E+02	1.00E+02	8.44E+01	6.03E+01	5.00E+01	3.55E+00	2.94E+00
0.600	54.87	4.63E+01	3.08E+01	8.44E+02	5.61E+02	8.64E+01	7.50E+01	5.14E+01	4.40E+01	2.82E+00	2.41E+00
0.600	51.41	3.38E+01	2.35E+01	6.57E+02	4.56E+02	7.93E+01	6.98E+01	4.69E+01	4.07E+01	2.41E+00	2.09E+00
0.600	45.66	2.38E+01	1.71E+01	5.20E+02	3.74E+02	7.32E+01	6.52E+01	4.30E+01	3.78E+01	1.96E+00	1.73E+00
0.600	41.07	2.03E+01	1.47E+01	4.94E+02	3.57E+02	7.19E+01	6.42E+01	4.23E+01	3.73E+01	1.74E+00	1.53E+00
0.600	37.31	1.94E+01	1.39E+01	5.19E+02	3.73E+02	7.33E+01	6.53E+01	4.32E+01	3.80E+01	1.61E+00	1.42E+00
0.600	34.19	2.03E+01	1.43E+01	5.93E+02	4.17E+02	7.67E+01	6.79E+01	4.55E+01	3.98E+01	1.56E+00	1.36E+00
0.600	29.28	2.84E+01	1.82E+01	9.70E+02	6.23E+02	9.10E+01	7.81E+01	5.49E+01	4.65E+01	1.61E+00	1.36E+00
0.600	25.61	5.62E+01	2.94E+01	2.20E+03	1.15E+03	1.20E+02	9.65E+01	7.42E+01	5.86E+01	1.90E+00	1.50E+00
0.800	68.72	1.25E+03	2.70E+02	1.82E+04	3.92E+03	2.46E+02	1.46E+02	1.55E+02	9.02E+01	1.07E+01	6.20E+00
0.800	63.38	1.22E+02	6.93E+01	1.97E+03	1.09E+03	1.16E+02	9.44E+01	7.03E+01	5.65E+01	4.45E+00	3.58E+00
0.800	58.82	5.79E+01	3.77E+01	9.84E+02	6.40E+02	9.11E+01	7.85E+01	5.45E+01	4.62E+01	3.20E+00	2.72E+00
0.800	54.87	3.80E+01	2.63E+01	6.93E+02	4.80E+02	8.07E+01	7.10E+01	4.78E+01	4.14E+01	2.62E+00	2.27E+00
0.800	51.41	2.91E+01	2.08E+01	5.66E+02	4.05E+02	7.53E+01	6.70E+01	4.43E+01	3.89E+01	2.28E+00	2.00E+00
0.800	45.66	2.19E+01	1.60E+01	4.79E+02	3.50E+02	7.12E+01	6.38E+01	4.17E+01	3.69E+01	1.91E+00	1.69E+00
0.800	41.07	1.97E+01	1.44E+01	4.81E+02	3.50E+02	7.13E+01	6.38E+01	4.19E+01	3.71E+01	1.72E+00	1.52E+00
0.800	37.31	2.00E+01	1.44E+01	5.37E+02	3.85E+02	7.41E+01	6.60E+01	4.38E+01	3.85E+01	1.64E+00	1.44E+00
0.800	34.19	2.24E+01	1.56E+01	6.56E+02	4.55E+02	7.95E+01	7.00E+01	4.74E+01	4.12E+01	1.62E+00	1.41E+00
0.800	29.28	3.89E+01	2.34E+01	1.33E+03	7.99E+02	1.01E+02	8.51E+01	6.18E+01	5.12E+01	1.81E+00	1.50E+00
0.800	25.61	1.39E+02	5.26E+01	5.43E+03	2.06E+03	1.64E+02	1.18E+02	1.03E+02	7.25E+01	2.63E+00	1.86E+00
1.000	68.72	5.09E+02	1.76E+02	7.40E+03	2.56E+03	1.82E+02	1.26E+02	1.13E+02	7.73E+01	7.79E+00	5.31E+00
1.000	63.38	9.54E+01	5.67E+01	1.51E+03	8.94E+02	1.05E+02	8.81E+01	6.37E+01	5.24E+01	4.04E+00	3.32E+00
1.000	58.82	4.93E+01	3.30E+01	8.38E+02	5.61E+02	8.62E+01	7.50E+01	5.13E+01	4.40E+01	3.02E+00	2.59E+00
1.000	54.87	3.42E+01	2.40E+01	6.23E+02	4.38E+02	7.78E+01	6.89E+01	4.59E+01	4.01E+01	2.52E+00	2.20E+00
1.000	51.41	2.72E+01	1.96E+01	5.29E+02	3.81E+02	7.36E+01	6.56E+01	4.33E+01	3.81E+01	2.22E+00	1.96E+00
1.000	45.66	2.17E+01	1.59E+01	4.76E+02	3.48E+02	7.10E+01	6.36E+01	4.17E+01	3.69E+01	1.91E+00	1.69E+00
1.000	41.07	2.09E+01	1.51E+01	5.08E+02	3.67E+02	7.27E+01	6.49E+01	4.29E+01	3.78E+01	1.76E+00	1.55E+00
1.000	37.31	2.28E+01	1.60E+01	6.10E+02	4.28E+02	7.75E+01	6.85E+01	4.61E+01	4.03E+01	1.72E+00	1.50E+00
1.000	34.19	2.81E+01	1.87E+01	8.21E+02	5.47E+02	8.59E+01	7.47E+01	5.17E+01	4.43E+01	1.77E+00	1.51E+00
1.000	29.28	7.24E+01	3.66E+01	2.47E+03	1.25E+03	1.25E+02	9.94E+01	7.76E+01	6.05E+01	2.27E+00	1.77E+00
1.000	25.61		2.10E+02		8.20E+03		1.89E+02		1.19E+02		3.04E+00
1.200	68.72	3.31E+02	1.40E+02	4.82E+03	2.04E+03	1.57E+02	1.17E+02	9.72E+01	7.11E+01	6.68E+00	4.89E+00
1.200	63.38	8.18E+01	5.09E+01	1.29E+03	8.03E+02	10.00E+01	8.69E+01	6.02E+01	5.04E+01	3.82E+00	3.19E+00
1.200	58.82	4.54E+01	3.12E+01	7.73E+02	5.30E+02	8.38E+01	7.36E+01	4.98E+01	4.31E+01	2.93E+00	2.54E+00
1.200	54.87	3.28E+01	2.34E+01	5.98E+02	4.27E+02	7.68E+01	6.83E+01	4.53E+01	3.98E+01	2.49E+00	2.18E+00
1.200	51.41	2.70E+01	1.96E+01	5.26E+02	3.82E+02	7.35E+01	6.57E+01	4.32E+01	3.82E+01	2.22E+00	1.96E+00
1.200	45.66	2.31E+01	1.68E+01	5.05E+02	3.63E+02	7.26E+01	6.50E+01	4.28E+01	3.78E+01	1.95E+00	1.73E+00
1.200	41.07	2.39E+01	1.71E+01	5.82E+02	4.15E+02	7.63E+01	6.78E+01	4.53E+01	3.98E+01	1.86E+00	1.63E+00
1.200	37.31	2.83E+01	1.96E+01	7.73E+02	5.25E+02	8.42E+01	7.36E+01	5.05E+01	4.36E+01	1.88E+00	1.63E+00
1.200	34.19	4.15E+01	2.57E+01	1.21E+03	7.52E+02	9.83E+01	8.34E+01	5.98E+01	5.01E+01	2.04E+00	1.71E+00
1.200	29.28	3.10E+02	8.62E+01	1.06E+04	2.94E+03	2.06E+02	1.33E+02	1.30E+02	8.27E+01	3.80E+00	2.42E+00
1.500	75.03		2.62E+04		3.49E+05		6.65E+02		4.29E+02		3.22E+01
1.500	68.72	2.30E+02	1.12E+02	3.35E+03	1.63E+03	1.39E+02	1.08E+02	8.54E+01	6.56E+01	5.87E+00	4.51E+00
1.500	63.38	7.21E+01	4.64E+01	1.14E+03	7.32E+02	9.56E+01	8.22E+01	5.76E+01	4.87E+01	3.65E+00	3.09E+00
1.500	58.82	4.34E+01	3.02E+01	7.38E+02	5.13E+02	8.26E+01	7.28E+01	4.91E+01	4.27E+01	2.89E+00	2.51E+00
1.500	54.87	3.33E+01	2.38E+01	6.06E+02	4.34E+02	7.72E+01	6.87E+01	4.57E+01	4.01E+01	2.51E+00	2.20E+00
1.500	51.41	2.83E+01	2.09E+01	5.62E+02	4.06E+02	7.52E+01	6.72E+01	4.45E+01	3.92E+01	2.29E+00	2.02E+00
1.500	45.66	2.77E+01	1.97E+01	6.07E+02	4.32E+02	7.74E+01	6.88E+01	4.60E+01	4.04E+01	2.10E+00	1.84E+00
1.500	41.07	3.35E+01	2.27E+01	8.17E+02	5.53E+02	8.58E+01	7.50E+01	5.16E+01	4.45E+01	2.12E+00	1.83E+00
1.500	37.31	5.20E+01	3.15E+01	1.39E+03	8.43E+02	1.03E+02	8.68E+01	6.30E+01	5.23E+01	2.35E+00	1.95E+00
1.500	34.19	1.26E+02	5.69E+01	3.69E+03	1.67E+03	1.44E+02	1.10E+02	8.96E+01	6.73E+01	3.06E+00	2.30E+00

1.17% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	68.67		6.86E+04		9.99E+05		9.46E+02		6.12E+02		4.20E+01
0.	63.72	9.02E+03	3.79E+02	1.42E+05	5.94E+03	4.91E+02	1.68E+02	3.15E+02	1.04E+02	2.01E+01	6.66E+00
0.	59.44	5.12E+02	1.52E+02	8.62E+03	2.56E+03	1.91E+02	1.26E+02	1.19E+02	7.71E+01	7.10E+00	4.58E+00
0.	55.69	2.24E+02	9.31E+01	4.02E+03	1.67E+03	1.48E+02	1.09E+02	9.10E+01	6.60E+01	5.07E+00	3.68E+00
0.	49.47	1.08E+02	5.53E+01	2.19E+03	1.12E+03	1.20E+02	9.51E+01	7.31E+01	5.70E+01	3.62E+00	2.82E+00
0.	44.69	7.89E+01	4.28E+01	1.77E+03	9.61E+02	1.12E+02	9.03E+01	6.78E+01	5.39E+01	3.02E+00	2.40E+00
0.	40.42	6.92E+01	3.78E+01	1.71E+03	9.35E+02	1.10E+02	8.95E+01	6.70E+01	5.35E+01	2.71E+00	2.16E+00

1.17% ^{235}U (continued)

DIAMETER OF REGION	AVE U235 DENSITY	MASS OF U235 (KG)		VOLUME(LITERS)		DIA. OF CYL.(CM)		WIDTH OF SLAB(CM)		G U235 PER SQ CM	
		CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE
0.	37.04	6.83E+01	3.67E+01	1.84E+03	9.93E+02	1.13E+02	9.14E+01	6.91E+01	5.47E+01	2.56E+00	2.03E+00
0.	31.72	9.37E+01	4.31E+01	2.95E+03	1.36E+03	1.33E+02	1.02E+02	8.20E+01	6.17E+01	2.60E+00	1.96E+00
0.	27.74	1.91E+02	8.15E+	5.15E+	2.23E+03	1.74E+02	1.21E+02	1.11E+02	7.41E+01	3.09E+00	2.06E+00
0.100	68.67		1.02E+03		1.48E+04		2.30E+02		1.44E+02		9.91E+00
0.100	63.72	6.03E+02	1.73E+02	9.46E+03	2.72E+03	1.77E+02	1.29E+02	1.23E+02	7.88E+01	7.87E+00	5.02E+00
0.100	59.44	1.74E+02	8.22E+01	2.93E+03	1.31E+03	1.32E+02	1.02E+02	8.12E+01	6.15E+01	4.83E+00	3.66E+00
0.100	55.69	3.42E+01	3.24E+01	1.69E+03	9.40E+02	1.10E+02	8.96E+01	6.64E+01	5.33E+01	3.70E+00	2.97E+00
0.100	49.47	4.93E+01	3.10E+01	9.97E+02	6.22E+02	9.15E+01	7.79E+01	5.47E+01	4.58E+01	2.71E+00	2.27E+00
0.100	44.49	3.51E+01	2.31E+01	7.89E+02	5.20E+02	8.44E+01	7.31E+01	5.02E+01	4.28E+01	2.23E+00	1.90E+00
0.100	40.42	2.97E+01	1.99E+01	7.34E+02	4.90E+02	8.24E+01	7.16E+01	4.90E+01	4.19E+01	1.98E+00	1.69E+00
0.100	37.04	2.79E+01	1.83E+01	7.53E+02	5.00E+02	8.32E+01	7.21E+01	4.95E+01	4.23E+01	1.83E+00	1.57E+00
0.100	31.72	2.95E+01	1.88E+01	9.35E+02	5.93E+02	8.95E+01	7.66E+01	5.38E+01	4.53E+01	1.71E+00	1.44E+00
0.100	27.74	3.62E+01	2.14E+01	1.30E+03	7.70E+02	1.01E+02	8.39E+01	6.11E+01	5.01E+01	1.69E+00	1.39E+00
0.200	68.67	1.29E+03	2.27E+02	1.33E+04	3.74E+03	2.47E+02	1.44E+02	1.57E+02	8.84E+01	1.08E+01	6.07E+00
0.200	63.72	1.80E+02	8.69E+01	2.83E+03	1.36E+03	1.31E+02	1.02E+02	8.00E+01	6.11E+01	5.10E+00	3.89E+00
0.200	59.44	8.44E+01	4.95E+01	1.42E+03	8.31E+02	1.03E+02	8.59E+01	6.22E+01	5.09E+01	3.70E+00	3.02E+00
0.200	55.69	5.33E+01	3.42E+01	9.61E+02	6.14E+02	9.03E+01	7.73E+01	5.39E+01	4.54E+01	3.00E+00	2.53E+00
0.200	49.47	3.18E+01	2.13E+01	6.43E+02	4.42E+02	7.86E+01	6.90E+01	4.64E+01	4.01E+01	2.29E+00	1.98E+00
0.200	44.49	2.39E+01	1.69E+01	5.37E+02	3.77E+02	7.39E+01	6.55E+01	4.34E+01	3.79E+01	1.93E+00	1.69E+00
0.200	40.42	2.05E+01	1.46E+01	5.06E+02	3.61E+02	7.23E+01	6.44E+01	4.25E+01	3.73E+01	1.72E+00	1.51E+00
0.200	37.04	1.91E+01	1.36E+01	5.16E+02	3.65E+02	7.30E+01	6.48E+01	4.29E+01	3.76E+01	1.59E+00	1.39E+00
0.200	31.72	1.98E+01	1.36E+01	6.23E+02	4.30E+02	7.80E+01	6.85E+01	4.63E+01	4.01E+01	1.47E+00	1.27E+00
0.200	27.74	2.35E+01	1.53E+01	8.47E+02	5.52E+02	8.68E+01	7.48E+01	5.21E+01	4.43E+01	1.44E+00	1.23E+00
0.300	74.45		2.01E+03		2.70E+04		2.81E+02		1.78E+02		1.32E+01
0.300	68.67	3.55E+02	1.39E+02	5.18E+03	2.02E+03	1.61E+02	1.16E+02	9.95E+01	7.06E+01	6.83E+00	4.85E+00
0.300	63.72	1.04E+02	5.94E+01	1.64E+03	9.33E+02	1.08E+02	8.93E+01	6.55E+01	5.30E+01	4.17E+00	3.38E+00
0.300	59.44	5.70E+01	3.66E+01	9.60E+02	6.16E+02	9.02E+01	7.74E+01	5.38E+01	4.54E+01	3.20E+00	2.70E+00
0.300	55.69	3.89E+01	2.65E+01	6.98E+02	4.76E+02	8.09E+01	7.07E+01	4.77E+01	4.11E+01	2.66E+00	2.29E+00
0.300	49.47	2.47E+01	1.77E+01	4.93E+02	3.58E+02	7.20E+01	6.41E+01	4.21E+01	3.70E+01	2.08E+00	1.83E+00
0.300	44.49	1.92E+01	1.41E+01	4.32E+02	3.16E+02	6.86E+01	6.15E+01	4.00E+01	3.53E+01	1.78E+00	1.57E+00
0.300	40.42	1.68E+01	1.23E+01	4.15E+02	3.05E+02	6.76E+01	6.08E+01	3.94E+01	3.49E+01	1.59E+00	1.41E+00
0.300	37.04	1.57E+01	1.16E+01	4.28E+02	3.13E+02	6.84E+01	6.14E+01	4.00E+01	3.54E+01	1.48E+00	1.31E+00
0.300	31.72	1.67E+01	1.19E+01	5.28E+02	3.75E+02	7.36E+01	6.54E+01	4.35E+01	3.81E+01	1.38E+00	1.21E+00
0.300	27.74	2.03E+01	1.37E+01	7.32E+02	4.92E+02	8.25E+01	7.19E+01	4.94E+01	4.24E+01	1.37E+00	1.18E+00
0.400	74.45	1.73E+05	5.92E+02	2.41E+06	7.95E+03	1.27E+03	1.86E+02	8.24E+02	1.16E+02	6.13E+01	8.61E+00
0.400	68.67	1.98E+02	9.64E+01	2.88E+03	1.40E+03	1.31E+02	1.03E+02	8.05E+01	6.17E+01	5.53E+00	4.24E+00
0.400	63.72	7.45E+01	4.62E+01	1.17E+03	7.25E+02	9.66E+01	8.13E+01	5.78E+01	4.82E+01	3.68E+00	3.07E+00
0.400	59.44	4.44E+01	3.00E+01	7.46E+02	5.05E+02	8.27E+01	7.22E+01	4.89E+01	4.20E+01	2.91E+00	2.50E+00
0.400	55.69	3.16E+01	2.23E+01	5.67E+02	4.01E+02	7.52E+01	6.66E+01	4.41E+01	3.85E+01	2.46E+00	2.14E+00
0.400	49.47	2.10E+01	1.55E+01	4.25E+02	3.13E+02	6.81E+01	6.12E+01	3.96E+01	3.51E+01	1.96E+00	1.73E+00
0.400	44.49	1.68E+01	1.26E+01	3.78E+02	2.83E+02	6.55E+01	5.91E+01	3.80E+01	3.38E+01	1.69E+00	1.50E+00
0.400	40.42	1.50E+01	1.12E+01	3.71E+02	2.78E+02	6.51E+01	5.88E+01	3.78E+01	3.37E+01	1.53E+00	1.36E+00
0.400	37.04	1.44E+01	1.07E+01	3.89E+02	2.83E+02	6.62E+01	5.97E+01	3.86E+01	3.43E+01	1.43E+00	1.27E+00
0.400	31.72	1.57E+01	1.13E+01	4.96E+02	3.56E+02	7.21E+01	6.43E+01	4.25E+01	3.74E+01	1.35E+00	1.19E+00
0.400	27.74	1.99E+01	1.35E+01	7.17E+02	4.85E+02	8.20E+01	7.16E+01	4.90E+01	4.23E+01	1.36E+00	1.17E+00
0.600	74.44	7.56E+02	2.22E+02	1.02E+04	2.98E+03	2.02E+02	1.33E+02	1.26E+02	8.14E+01	9.41E+00	6.06E+00
0.600	68.67	1.06E+02	6.24E+01	1.55E+03	9.08E+02	1.06E+02	8.84E+01	6.42E+01	5.25E+01	4.41E+00	3.60E+00
0.600	63.72	5.06E+01	3.41E+01	7.94E+02	5.35E+02	8.45E+01	7.36E+01	5.00E+01	4.29E+01	3.19E+00	2.74E+00
0.600	59.44	3.30E+01	2.35E+01	5.55E+02	3.96E+02	7.46E+01	6.63E+01	4.37E+01	3.83E+01	2.60E+00	2.27E+00
0.600	55.69	2.48E+01	1.82E+01	4.45E+02	3.27E+02	6.92E+01	6.21E+01	4.02E+01	3.56E+01	2.24E+00	1.98E+00
0.600	49.47	1.77E+01	1.33E+01	3.57E+02	2.70E+02	6.42E+01	5.81E+01	3.71E+01	3.32E+01	1.83E+00	1.64E+00
0.600	44.49	1.49E+01	1.13E+01	3.34E+02	2.54E+02	6.27E+01	5.70E+01	3.63E+01	3.25E+01	1.61E+00	1.45E+00
0.600	40.42	1.30E+01	1.05E+01	3.42E+02	2.59E+02	6.33E+01	5.75E+01	3.67E+01	3.29E+01	1.48E+00	1.33E+00
0.600	37.04	1.39E+01	1.04E+01	3.74E+02	2.81E+02	6.53E+01	5.91E+01	3.81E+01	3.40E+01	1.41E+00	1.26E+00
0.600	31.72	1.67E+01	1.19E+01	5.27E+02	3.77E+02	7.37E+01	6.55E+01	4.36E+01	3.83E+01	1.38E+00	1.22E+00
0.600	27.74	2.44E+01	1.60E+01	8.80E+02	5.76E+02	8.80E+01	7.60E+01	5.30E+01	4.52E+01	1.47E+00	1.25E+00
0.800	74.44	3.22E+02	1.40E+02	4.33E+03	1.87E+03	1.51E+02	1.13E+02	9.33E+01	6.87E+01	6.95E+00	5.11E+00
0.800	68.67	7.70E+01	4.89E+01	1.12E+03	7.12E+02	9.51E+01	8.13E+01	5.69E+01	4.78E+01	3.91E+00	3.29E+00
0.800	63.72	4.07E+01	2.87E+01	6.42E+02	4.50E+02	7.85E+01	6.94E+01	4.62E+01	4.02E+01	2.94E+00	2.56E+00
0.800	59.44	2.81E+01	2.06E+01	4.73E+02	3.47E+02	7.07E+01	6.34E+01	4.12E+01	3.64E+01	2.45E+00	2.16E+00
0.800	55.69	2.20E+01	1.65E+01	3.94E+02	2.96E+02	6.64E+01	6.00E+01	3.84E+01	3.43E+01	2.14E+00	1.91E+00
0.800	49.47	1.65E+01	1.20E+01	3.34E+02	2.55E+02	6.27E+01	5.71E+01	3.62E+01	3.25E+01	1.79E+00	1.61E+00
0.800	44.49	1.46E+01	1.12E+01	3.23E+02	2.51E+02	6.24E+01	5.68E+01	3.61E+01	3.24E+01	1.61E+00	1.44E+00
0.800	40.42	1.43E+01	1.08E+01	3.51E+02	2.67E+02	6.40E+01	5.81E+01	3.72E+01	3.34E+01	1.51E+00	1.35E+00
0.800	37.04	1.51E+01	1.12E+01	4.07E+02	3.03E+02	6.73E+01	6.07E+01	3.95E+01	3.51E+01	1.46E+00	1.30E+00
0.800	31.72	2.11E+01	1.46E+01	6.64E+02	4.59E+02	7.99E+01	7.03E+01	4.77E+01	4.14E+01	1.51E+00	1.31E+00
0.800	27.74	4.03E+01	2.37E+01	1.45E+03	8.53E+02	1.05E+02	8.72E+01	6.39E+01	5.25E+01	1.77E+00	1.46E+00
1.000	81.29		1.40E+04		1.73E+05		5.25E+02		3.37E+02		2.74E+01
1.000	74.44	2.13E+02	1.06E+02	2.32E+03	1.43E+03	1.31E+02	1.03E+02	7.99E+01	6.21E+01	5.95E+00	4.62E+00
1.000	68.67	6.34E+01	4.20E+01	9.24E+02	6.12E+02	8.90E+01	7.72E+01	5.30E+01	4.52E+01	3.64E+00	3.11E+00
1.000	63.72	3.61E+01	2.53E+01	5.57E+02	4.07E+02	7.52E+01	6.70E+01	4.41E+01	3.87E+01	2.81E+00	2.47E+00
1.000	59.44	2.59E+01	1.92E+01	4.33E+02	3.24E+02	6.87E+01	6.19E+01	3.99E+01	3.55E+01	2.37E+00	2.11E+00
1.000	55.69	2.08E+01	1.58E+01	3.74E+02	2.83E+02	6.52E+01	5.91E+01	3.77E+01	3.38E+01	2.10E+00	1.88E+00
1.000	49.47	1.65E+01	1.27E+01	3.33E+02	2.56E+02	6.28E+01	5.72E+01	3.63E+01	3.26E+01	1.80E+00	1.61E+00
1.000	44.49	1.54E+01	1.17E+01	3.46E+02	2.64E+02	6.36E+01	5.78E+01	3.69E+01	3.32E+01	1.64E+00	1.48E+00
1.000	40.42	1.59E+01	1.20E+01	3.94E+02	2.96E+02	6.66E+01	6.02E+01	3.90E+01	3.48E+01	1.58E+00	1.41E+00
1.000	37.04	1.81E+01	1.32E+01	4.99E+02	3.56E+02	7.18E+01	6.43E+01	4.24E+01	3.75E+01	1.57E+00	1.39E+00
1.000	31.72	3.21E+01	2.00E+01	1.01E+03	6.44E+02	9.24E+01	7.92E+01	5.59E+01	4.73E+01	1.77E+00	1.50E+00
1.000	27.74	1.17E+02	4.93E+01	4.21E+03	1.79E+03	1.50E+02	1.12E+02	9.39E+01	6.89E+01	2.60E+00	1.91E+00
1.200	81.29		2.04E+03		2.51E+04		2.74E+02		1.73E+02		1.41E+01
1.200	74.44	1.61E+02	8.85E+01	2.15E+03	1.14E+03	1.19E+02	9.71E+01	7.26E+01	5.81E+01	5.40E+00	4.32E+00
1.200	68.67	5.62E+01	3.82E+01	8.13E+02	5.56E+02	8.54E+01	7.47E+01	5.06E+01	4.37E+01	3.48E+00	3.00E+00
1.200	63.72	3.37E+01	2.49E+01	5.24E+02	3.84E+02	7.35E+01	6.57E+01	4.30E+01	3.80E+01	2.74E+00	2.42E+00
1.200	59.44	2.50E+01	1.87E+01	4.23E+02	3.15E+02	6.79E+01	6.13E+01	3.95E+01	3.52E+01	2.35E+00	2.09E+00
1.200	55.69	2.07E+01	1.57E+01	3.72E+02	2.83E+02	6.51E+01	5.91E+01	3.77E+01	3.38E+01	2.10E+00	1.88E+00
1.200	49.47	1.74E+01	1.33E+01	3.51E+02	2.68E+02	6.39E+01	5.81E+01	3.71E+01	3.33E+01	1.84E+00	1.65E+00
1.200	44.49	1.72E+01	1.30E+01	3.87E+02	2.92E+02	6.61E+01	5.99E+01	3.87E+01	3.46E+01	1.72E+00	1.54E+00
1.200	40.42	1.92E+01	1.41E+01	4.75E+02	3.49E+02	7.12E+01	6.39E+01	4.20E+01	3.72E+01	1.70E+00	1.50E+00
1.200	37.04	2.43E+01	1.69E+01	6.55E+02	4.57E+02	7.95E+01	7.02E+01	4.75E+01	4.14E+01	1.76E+00	1.53E+00
1.200	31.72	6.66E+01	3.58E+01	2.10E+03	1.13E+03	1.19E+02	9.60E+01	7.32E+01	5.83E+01	2.32E+00	1.85E+00

1.17% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
1.200	27.74		2.77E+02		9.98E+03		2.02E+02		1.27E+02		3.53E+00
1.300	31.27		7.37E+02		9.83E+03		2.00E+02		1.25E+02		1.01E+01
1.300	74.44	1.27E+02	7.50E+01	1.71E+03	1.01E+03	1.10E+02	9.17E+01	6.67E+01	5.47E+01	4.96E+00	4.07E+00
1.500	68.67	5.03E+01	3.54E+01	7.41E+02	5.15E+02	8.26E+01	7.28E+01	4.89E+01	4.25E+01	3.36E+00	2.92E+00
1.500	63.72	3.20E+01	2.37E+01	5.11E+02	3.75E+02	7.27E+01	6.52E+01	4.29E+01	3.77E+01	2.71E+00	2.40E+00
1.300	59.44	2.53E+01	1.90E+01	4.26E+02	3.20E+02	6.83E+01	6.18E+01	3.98E+01	3.55E+01	2.37E+00	2.11E+00
1.300	55.69	2.20E+01	1.66E+01	3.94E+02	2.97E+02	6.65E+01	6.03E+01	3.88E+01	3.47E+01	2.16E+00	1.93E+00
1.500	49.47	2.03E+01	1.53E+01	4.11E+02	3.09E+02	6.75E+01	6.11E+01	3.96E+01	3.54E+01	1.96E+00	1.75E+00
1.500	44.49	2.27E+01	1.66E+01	5.10E+02	3.72E+02	7.29E+01	6.53E+01	4.31E+01	3.82E+01	1.92E+00	1.70E+00
1.500	40.42	3.02E+01	2.07E+01	7.47E+02	5.13E+02	8.32E+01	7.31E+01	5.00E+01	4.33E+01	2.02E+00	1.75E+00
1.500	37.04	5.07E+01	3.07E+01	1.37E+03	8.29E+02	1.03E+02	8.63E+01	6.26E+01	5.20E+01	2.32E+00	1.93E+00
1.500	31.72	8.63E+04	2.41E+02	2.71E+06	7.59E+03	1.32E+03	1.84E+02	8.59E+02	1.16E+02	2.72E+01	3.67E+00

1.30% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.	76.30	8.02E+03	4.37E+02	1.05E+05	5.73E+03	4.44E+02	1.66E+02	2.85E+02	1.03E+02	2.17E+01	7.85E+00
0.	70.80	3.27E+02	1.29E+02	4.62E+03	1.83E+03	1.54E+02	1.12E+02	9.53E+01	6.78E+01	6.75E+00	4.80E+00
0.	66.04	1.38E+02	7.18E+01	2.09E+03	1.09E+03	1.18E+02	9.40E+01	7.15E+01	5.59E+01	4.72E+00	3.69E+00
0.	61.88	8.52E+01	4.95E+01	1.38E+03	8.00E+02	1.02E+02	8.46E+01	6.13E+01	4.99E+01	3.79E+00	3.09E+00
0.	54.96	4.99E+01	3.18E+01	9.08E+02	5.78E+02	8.85E+01	7.56E+01	5.26E+01	4.42E+01	2.89E+00	2.43E+00
0.	49.43	3.75E+01	2.47E+01	7.59E+02	5.00E+02	8.32E+01	7.19E+01	4.93E+01	4.19E+01	2.43E+00	2.07E+00
0.	44.91	3.20E+01	2.13E+01	7.14E+02	4.75E+02	8.15E+01	7.07E+01	4.82E+01	4.12E+01	2.17E+00	1.85E+00
0.	41.15	2.98E+01	1.98E+01	7.23E+02	4.81E+02	8.20E+01	7.11E+01	4.86E+01	4.15E+01	2.00E+00	1.71E+00
0.	35.25	3.11E+01	1.98E+01	8.82E+02	5.62E+02	8.78E+01	7.51E+01	5.25E+01	4.42E+01	1.85E+00	1.56E+00
0.	30.83	3.71E+01	2.21E+01	1.20E+03	7.17E+02	9.78E+01	8.18E+01	5.91E+01	4.86E+01	1.82E+00	1.50E+00
0.100	82.72		8.26E+04		9.98E+05		9.45E+02		6.12E+02		5.06E+01
0.100	76.30	7.94E+02	2.18E+02	1.04E+04	2.86E+03	2.04E+02	1.31E+02	1.27E+02	8.00E+01	9.72E+00	6.10E+00
0.100	70.80	1.61E+02	8.24E+01	2.28E+03	1.16E+03	1.21E+02	9.62E+01	7.37E+01	5.74E+01	5.22E+00	4.06E+00
0.100	66.04	7.82E+01	4.75E+01	1.18E+03	7.19E+02	9.69E+01	8.15E+01	5.79E+01	4.79E+01	3.83E+00	3.16E+00
0.100	61.88	5.00E+01	3.28E+01	8.08E+02	5.30E+02	8.49E+01	7.33E+01	5.02E+01	4.27E+01	3.11E+00	2.64E+00
0.100	54.96	2.93E+01	2.07E+01	5.34E+02	3.76E+02	7.36E+01	6.51E+01	4.30E+01	3.74E+01	2.36E+00	2.06E+00
0.100	49.43	2.15E+01	1.56E+01	4.35E+02	3.15E+02	6.86E+01	6.13E+01	3.98E+01	3.51E+01	1.97E+00	1.73E+00
0.100	44.91	1.80E+01	1.32E+01	4.00E+02	2.93E+02	6.67E+01	5.98E+01	3.87E+01	3.42E+01	1.74E+00	1.54E+00
0.100	41.15	1.64E+01	1.20E+01	3.97E+02	2.92E+02	6.66E+01	5.97E+01	3.87E+01	3.42E+01	1.59E+00	1.41E+00
0.100	35.25	1.56E+01	1.12E+01	4.41E+02	3.19E+02	6.91E+01	6.17E+01	4.04E+01	3.56E+01	1.43E+00	1.25E+00
0.100	30.83	1.62E+01	1.14E+01	5.27E+02	3.71E+02	7.36E+01	6.51E+01	4.34E+01	3.79E+01	1.36E+00	1.17E+00
0.200	82.72		7.64E+02		9.23E+03		1.95E+02		1.22E+02		1.01E+01
0.200	76.30	2.43E+02	1.13E+02	3.18E+03	1.48E+03	1.36E+02	1.04E+02	8.32E+01	6.26E+01	6.35E+00	4.78E+00
0.200	70.80	8.53E+01	5.19E+01	1.20E+03	7.34E+02	9.74E+01	8.20E+01	5.82E+01	4.82E+01	4.12E+00	3.41E+00
0.200	66.04	4.87E+01	3.27E+01	7.38E+02	4.95E+02	8.23E+01	7.16E+01	4.85E+01	4.15E+01	3.20E+00	2.74E+00
0.200	61.88	3.36E+01	2.37E+01	5.42E+02	3.83E+02	7.40E+01	6.55E+01	4.32E+01	3.76E+01	2.67E+00	2.33E+00
0.200	54.96	2.12E+01	1.57E+01	3.85E+02	2.85E+02	6.57E+01	5.91E+01	3.79E+01	3.36E+01	2.08E+00	1.85E+00
0.200	49.43	1.61E+01	1.21E+01	3.25E+02	2.46E+02	6.20E+01	5.62E+01	3.56E+01	3.18E+01	1.76E+00	1.57E+00
0.200	44.91	1.36E+01	1.04E+01	3.03E+02	2.31E+02	6.05E+01	5.50E+01	3.47E+01	3.11E+01	1.56E+00	1.40E+00
0.200	41.15	1.24E+01	9.43E+00	3.00E+02	2.29E+02	6.04E+01	5.49E+01	3.47E+01	3.11E+01	1.43E+00	1.28E+00
0.200	35.25	1.17E+01	8.85E+00	3.33E+02	2.51E+02	6.27E+01	5.68E+01	3.63E+01	3.24E+01	1.28E+00	1.14E+00
0.200	30.83	1.23E+01	9.06E+00	3.99E+02	2.94E+02	6.68E+01	6.00E+01	3.91E+01	3.46E+01	1.20E+00	1.07E+00
0.300	82.72	1.56E+03	3.15E+02	1.89E+04	3.81E+03	2.49E+02	1.45E+02	1.57E+02	8.87E+01	1.30E+01	7.34E+00
0.300	76.30	1.37E+02	7.63E+01	1.80E+03	9.99E+02	1.12E+02	9.13E+01	6.75E+01	5.41E+01	5.15E+00	4.13E+00
0.300	70.80	5.96E+01	3.93E+01	8.42E+02	5.55E+02	8.61E+01	7.45E+01	5.09E+01	4.33E+01	3.60E+00	3.06E+00
0.300	66.04	3.66E+01	2.59E+01	5.55E+02	3.92E+02	7.46E+01	6.60E+01	4.35E+01	3.79E+01	2.87E+00	2.50E+00
0.300	61.88	2.64E+01	1.93E+01	4.26E+02	3.13E+02	6.80E+01	6.10E+01	3.93E+01	3.47E+01	2.43E+00	2.15E+00
0.300	54.96	1.73E+01	1.32E+01	3.16E+02	2.40E+02	6.13E+01	5.57E+01	3.51E+01	3.14E+01	1.93E+00	1.73E+00
0.300	49.43	1.35E+01	1.05E+01	2.74E+02	2.12E+02	5.84E+01	5.33E+01	3.33E+01	3.00E+01	1.65E+00	1.48E+00
0.300	44.91	1.16E+01	9.05E+00	2.59E+02	2.01E+02	5.74E+01	5.25E+01	3.27E+01	2.95E+01	1.47E+00	1.32E+00
0.300	41.15	1.07E+01	8.31E+00	2.60E+02	2.02E+02	5.75E+01	5.26E+01	3.28E+01	2.96E+01	1.35E+00	1.22E+00
0.300	35.25	1.04E+01	7.97E+00	2.95E+02	2.26E+02	6.01E+01	5.47E+01	3.47E+01	3.11E+01	1.22E+00	1.10E+00
0.300	30.83	1.12E+01	8.34E+00	3.62E+02	2.71E+02	6.46E+01	5.84E+01	3.77E+01	3.36E+01	1.16E+00	1.03E+00
0.400	82.72	5.48E+02	1.95E+02	6.63E+03	2.35E+03	1.75E+02	1.23E+02	1.08E+02	7.44E+01	8.97E+00	6.15E+00
0.400	76.30	9.71E+01	5.91E+01	1.27E+03	7.75E+02	9.93E+01	8.36E+01	5.94E+01	4.91E+01	4.53E+00	3.75E+00
0.400	70.80	4.68E+01	3.23E+01	6.62E+02	4.56E+02	7.92E+01	6.96E+01	4.64E+01	4.02E+01	3.29E+00	2.84E+00
0.400	66.04	3.03E+01	2.21E+01	4.59E+02	3.34E+02	6.98E+01	6.24E+01	4.04E+01	3.56E+01	2.67E+00	2.35E+00
0.400	61.88	2.24E+01	1.66E+01	3.62E+02	2.72E+02	6.43E+01	5.81E+01	3.69E+01	3.29E+01	2.28E+00	2.03E+00
0.400	54.96	1.53E+01	1.10E+01	2.78E+02	2.15E+02	5.87E+01	5.36E+01	3.34E+01	3.01E+01	1.84E+00	1.65E+00
0.400	49.43	1.22E+01	9.53E+00	2.46E+02	1.93E+02	5.63E+01	5.16E+01	3.20E+01	2.89E+01	1.58E+00	1.43E+00
0.400	44.91	1.07E+01	8.37E+00	2.37E+02	1.86E+02	5.56E+01	5.11E+01	3.16E+01	2.86E+01	1.42E+00	1.29E+00
0.400	41.15	9.95E+00	7.80E+00	2.42E+02	1.90E+02	5.60E+01	5.14E+01	3.19E+01	2.89E+01	1.31E+00	1.19E+00
0.400	35.25	9.96E+00	7.67E+00	2.82E+02	2.18E+02	5.92E+01	5.41E+01	3.41E+01	3.07E+01	1.20E+00	1.08E+00
0.400	30.83	1.10E+01	8.28E+00	3.58E+02	2.69E+02	6.44E+01	5.82E+01	3.76E+01	3.35E+01	1.16E+00	1.03E+00
0.600	90.32		1.44E+04		1.60E+05		5.11E+02		3.28E+02		2.96E+01
0.600	82.72	2.22E+02	1.12E+02	2.69E+03	1.36E+03	1.28E+02	1.01E+02	7.83E+01	6.07E+01	6.47E+00	5.02E+00
0.600	76.30	6.41E+01	4.27E+01	8.40E+02	5.60E+02	9.60E+01	7.47E+01	5.08E+01	4.34E+01	3.88E+00	3.31E+00
0.600	70.80	3.50E+01	2.54E+01	4.94E+02	3.58E+02	7.16E+01	6.40E+01	4.15E+01	3.66E+01	2.94E+00	2.59E+00
0.600	66.04	2.40E+01	1.81E+01	3.63E+02	2.74E+02	6.43E+01	5.83E+01	3.69E+01	3.29E+01	2.44E+00	2.18E+00
0.600	61.88	1.84E+01	1.42E+01	2.98E+02	2.30E+02	6.01E+01	5.48E+01	3.42E+01	3.08E+01	2.12E+00	1.91E+00
0.600	54.96	1.33E+01	1.05E+01	2.42E+02	1.90E+02	5.59E+01	5.14E+01	3.17E+01	2.87E+01	1.74E+00	1.58E+00
0.600	49.43	1.10E+01	8.76E+00	2.23E+02	1.77E+02	5.44E+01	5.02E+01	3.08E+01	2.80E+01	1.52E+00	1.38E+00
0.600	44.91	1.00E+01	7.94E+00	2.23E+02	1.77E+02	5.45E+01	5.02E+01	3.09E+01	2.81E+01	1.39E+00	1.26E+00
0.600	41.15	9.70E+00	7.65E+00	2.36E+02	1.86E+02	5.56E+01	5.11E+01	3.17E+01	2.88E+01	1.30E+00	1.18E+00
0.600	35.25	1.03E+01	8.07E+00	2.98E+02	2.29E+02	6.04E+01	5.51E+01	3.49E+01	3.15E+01	1.23E+00	1.11E+00
0.600	30.83	1.23E+01	9.51E+00	4.18E+02	3.08E+02	6.80E+01	6.12E+01	4.00E+01	3.55E+01	1.23E+00	1.09E+00
0.800	90.32		1.24E+03		1.38E+04		2.24E+02		1.40E+02		1.27E+01
0.800	82.72	1.43E+02	8.23E+01	1.73E+03	9.95E+02	1.10E+02	9.11E+01	6.66E+01	5.40E+01	5.51E+00	4.47E+00

1.30% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.800	76.30	[illegible]	3.55E+01	5.54E+02	[illegible]	[illegible]	[illegible]	4.65E+01	[illegible]	3.55E+00	3.08E+00
0.800	70.80	2.96E+01	2.20E+01	4.18E+02	3.11E+02	6.76E+01	6.09E+01	3.90E+01	3.46E+01	2.76E+00	2.45E+00
0.800	66.04	2.11E+01	1.62E+01	3.20E+02	2.43E+02	6.16E+01	5.61E+01	3.52E+01	3.16E+01	2.32E+00	2.09E+00
0.800	61.33	1.67E+01	1.31E+01	2.70E+02	2.11E+02	5.81E+01	5.32E+01	3.30E+01	2.98E+01	2.04E+00	1.35E+00
0.800	54.96	1.26E+01	1.00E+01	2.27E+02	1.82E+02	5.49E+01	5.06E+01	3.11E+01	2.83E+01	1.71E+00	1.55E+00
0.800	49.43	1.09E+01	8.68E+00	2.21E+02	1.76E+02	5.43E+01	5.01E+01	3.08E+01	2.80E+01	1.52E+00	1.38E+00
0.800	44.91	1.03E+01	8.18E+00	2.30E+02	1.82E+02	5.51E+01	5.07E+01	3.14E+01	2.85E+01	1.41E+00	1.28E+00
0.800	41.15	1.04E+01	8.18E+00	2.53E+02	1.99E+02	5.71E+01	5.24E+01	3.27E+01	2.97E+01	1.35E+00	1.22E+00
0.800	35.25	1.26E+01	9.50E+00	3.57E+02	2.70E+02	6.44E+01	5.83E+01	3.76E+01	3.36E+01	1.32E+00	1.19E+00
0.800	30.83	1.81E+01	1.28E+01	5.37E+02	4.14E+02	7.66E+01	6.78E+01	4.56E+01	3.99E+01	1.41E+00	1.23E+00
1.000	90.32	7.69E+03	5.75E+02	8.52E+04	6.36E+03	4.14E+02	1.72E+02	2.65E+02	1.07E+02	2.39E+01	9.65E+00
1.000	82.72	1.10E+02	6.76E+01	1.33E+03	8.17E+02	1.01E+02	8.52E+01	6.03E+01	5.02E+01	4.99E+00	4.15E+00
1.000	76.30	4.37E+01	3.13E+01	5.72E+02	4.10E+02	7.54E+01	6.71E+01	4.40E+01	3.85E+01	3.35E+00	2.94E+00
1.000	70.80	2.68E+01	2.03E+01	3.78E+02	2.86E+02	6.53E+01	5.92E+01	3.76E+01	3.36E+01	2.66E+00	2.38E+00
1.000	66.04	1.97E+01	1.53E+01	2.99E+02	2.32E+02	6.02E+01	5.50E+01	3.43E+01	3.10E+01	2.27E+00	2.05E+00
1.000	61.33	1.60E+01	1.26E+01	2.59E+02	2.04E+02	5.73E+01	5.26E+01	3.25E+01	2.95E+01	2.01E+00	1.83E+00
1.000	54.96	1.26E+01	1.00E+01	2.30E+02	1.83E+02	5.50E+01	5.07E+01	3.12E+01	2.84E+01	1.71E+00	1.56E+00
1.000	49.43	1.14E+01	9.09E+00	2.31E+02	1.84E+02	5.52E+01	5.09E+01	3.14E+01	2.86E+01	1.55E+00	1.41E+00
1.000	44.91	1.14E+01	8.94E+00	2.53E+02	1.99E+02	5.70E+01	5.24E+01	3.27E+01	2.97E+01	1.47E+00	1.33E+00
1.000	41.15	1.21E+01	9.40E+00	2.93E+02	2.29E+02	6.02E+01	5.50E+01	3.48E+01	3.15E+01	1.43E+00	1.29E+00
1.000	35.25	1.71E+01	1.25E+01	4.86E+02	3.53E+02	7.17E+01	6.42E+01	4.24E+01	3.75E+01	1.50E+00	1.32E+00
1.000	30.83	3.26E+01	2.08E+01	1.06E+03	6.73E+02	9.40E+01	8.03E+01	5.70E+01	4.81E+01	1.76E+00	1.48E+00
1.200	90.32	1.77E+03	3.77E+02	1.96E+04	4.17E+03	2.52E+02	1.49E+02	1.59E+02	9.18E+01	1.44E+01	8.29E+00
1.200	82.72	9.20E+01	5.91E+01	1.11E+03	7.15E+02	9.48E+01	8.13E+01	5.65E+01	4.77E+01	4.68E+00	3.95E+00
1.200	76.30	3.78E+01	2.90E+01	5.21E+02	3.80E+02	7.30E+01	6.53E+01	4.25E+01	3.75E+01	3.24E+00	2.86E+00
1.200	70.80	2.54E+01	1.94E+01	3.58E+02	2.73E+02	6.41E+01	5.83E+01	3.68E+01	3.30E+01	2.61E+00	2.34E+00
1.200	66.04	1.92E+01	1.50E+01	2.91E+02	2.27E+02	5.96E+01	5.46E+01	3.40E+01	3.08E+01	2.25E+00	2.03E+00
1.200	61.88	1.60E+01	1.26E+01	2.58E+02	2.04E+02	5.73E+01	5.27E+01	3.26E+01	2.96E+01	2.02E+00	1.93E+00
1.200	54.96	1.32E+01	1.05E+01	2.40E+02	1.91E+02	5.59E+01	5.15E+01	3.19E+01	2.90E+01	1.75E+00	1.59E+00
1.200	49.43	1.26E+01	9.93E+00	2.55E+02	2.01E+02	5.71E+01	5.26E+01	3.28E+01	2.98E+01	1.62E+00	1.47E+00
1.200	44.91	1.33E+01	1.03E+01	2.96E+02	2.30E+02	6.02E+01	5.51E+01	3.49E+01	3.15E+01	1.57E+00	1.42E+00
1.200	41.15	1.53E+01	1.16E+01	3.72E+02	2.81E+02	6.53E+01	5.92E+01	3.82E+01	3.42E+01	1.57E+00	1.41E+00
1.200	35.25	2.76E+01	1.87E+01	7.84E+02	5.29E+02	8.46E+01	7.39E+01	5.09E+01	4.39E+01	1.79E+00	1.55E+00
1.200	30.83	1.02E+02	4.73E+01	3.31E+03	1.54E+03	1.39E+02	1.07E+02	8.62E+01	6.53E+01	2.66E+00	2.01E+00
1.500	90.32	7.64E+02	2.58E+02	8.46E+03	2.86E+03	1.90E+02	1.31E+02	1.18E+02	8.01E+01	1.07E+01	7.23E+00
1.500	82.72	7.82E+01	5.22E+01	9.46E+02	6.31E+02	8.97E+01	7.79E+01	5.33E+01	4.56E+01	4.41E+00	3.77E+00
1.500	76.30	3.67E+01	2.73E+01	4.94E+02	3.58E+02	7.11E+01	6.40E+01	4.14E+01	3.67E+01	3.16E+00	2.80E+00
1.500	70.80	2.48E+01	1.90E+01	3.50E+02	2.69E+02	6.36E+01	5.80E+01	3.66E+01	3.29E+01	2.59E+00	2.33E+00
1.500	66.04	1.95E+01	1.53E+01	2.96E+02	2.31E+02	6.01E+01	5.51E+01	3.44E+01	3.11E+01	2.27E+00	2.06E+00
1.500	61.89	1.67E+01	1.33E+01	2.73E+02	2.15E+02	5.85E+01	5.37E+01	3.34E+01	3.04E+01	2.07E+00	1.88E+00
1.500	54.96	1.52E+01	1.19E+01	2.76E+02	2.17E+02	5.88E+01	5.40E+01	3.38E+01	3.07E+01	1.86E+00	1.69E+00
1.500	49.43	1.59E+01	1.23E+01	3.21E+02	2.48E+02	6.20E+01	5.67E+01	3.60E+01	3.25E+01	1.78E+00	1.61E+00
1.500	44.91	1.90E+01	1.42E+01	4.23E+02	3.15E+02	6.83E+01	6.17E+01	4.02E+01	3.59E+01	1.81E+00	1.61E+00
1.500	41.15	2.62E+01	1.84E+01	6.36E+02	4.47E+02	7.87E+01	6.97E+01	4.71E+01	4.12E+01	1.94E+00	1.69E+00
1.500	35.25	1.12E+02	5.31E+01	3.18E+03	1.51E+03	1.37E+02	1.06E+02	8.50E+01	6.49E+01	3.00E+00	2.29E+00

1.50% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.	95.44		9.38E+02		9.83E+03		1.99E+02		1.24E+02		1.18E+01
0.	88.03	3.03E+02	1.34E+02	3.44E+03	1.53E+03	1.39E+02	1.05E+02	8.53E+01	6.31E+01	7.51E+00	5.55E+00
0.	81.69	1.08E+02	6.33E+01	1.32E+03	7.75E+02	1.00E+02	9.35E+01	5.99E+01	4.88E+01	4.89E+00	3.99E+00
0.	76.20	6.23E+01	4.05E+01	8.18E+02	5.31E+02	8.51E+01	7.32E+01	5.00E+01	4.23E+01	3.81E+00	3.22E+00
0.	71.40	4.34E+01	2.93E+01	6.08E+02	4.17E+02	7.68E+01	6.73E+01	4.49E+01	3.85E+01	3.20E+00	2.75E+00
0.	63.42	2.77E+01	1.99E+01	4.37E+02	3.14E+02	6.85E+01	6.10E+01	3.95E+01	3.46E+01	2.51E+00	2.20E+00
0.	57.04	2.11E+01	1.55E+01	3.71E+02	2.73E+02	6.47E+01	5.81E+01	3.71E+01	3.28E+01	2.12E+00	1.87E+00
0.	51.82	1.77E+01	1.32E+01	3.42E+02	2.54E+02	6.30E+01	5.68E+01	3.61E+01	3.20E+01	1.87E+00	1.66E+00
0.	47.48	1.59E+01	1.18E+01	3.35E+02	2.49E+02	6.26E+01	5.64E+01	3.59E+01	3.19E+01	1.70E+00	1.51E+00
0.	40.67	1.47E+01	1.08E+01	3.60E+02	2.66E+02	6.43E+01	5.78E+01	3.71E+01	3.28E+01	1.51E+00	1.34E+00
0.	35.57	1.47E+01	1.07E+01	4.14E+02	2.99E+02	6.75E+01	6.03E+01	3.93E+01	3.46E+01	1.40E+00	1.23E+00
0.100	95.44	2.64E+03	4.06E+02	2.76E+04	4.25E+03	2.83E+02	1.50E+02	1.79E+02	9.20E+01	1.71E+01	8.78E+00
0.100	88.03	1.73E+02	9.24E+01	1.97E+03	1.05E+03	1.15E+02	9.27E+01	6.95E+01	5.48E+01	6.12E+00	4.83E+00
0.100	81.69	7.26E+01	4.68E+01	8.89E+02	5.73E+02	8.76E+01	7.51E+01	5.17E+01	4.35E+01	4.22E+00	3.56E+00
0.100	76.20	4.31E+01	3.00E+01	5.55E+02	3.94E+02	7.49E+01	6.60E+01	4.35E+01	3.77E+01	3.31E+00	2.37E+00
0.100	71.40	3.00E+01	2.19E+01	4.21E+02	3.06E+02	6.76E+01	6.05E+01	3.88E+01	3.42E+01	2.77E+00	2.44E+00
0.100	63.42	1.89E+01	1.43E+01	2.97E+02	2.26E+02	6.00E+01	5.44E+01	3.40E+01	3.04E+01	2.16E+00	1.93E+00
0.100	57.04	1.41E+01	1.09E+01	2.46E+02	1.71E+02	5.62E+01	5.13E+01	3.17E+01	2.85E+01	1.81E+00	1.63E+00
0.100	51.82	1.16E+01	9.11E+00	2.25E+02	1.76E+02	5.44E+01	4.99E+01	3.06E+01	2.77E+01	1.59E+00	1.43E+00
0.100	47.48	1.03E+01	8.12E+00	2.18E+02	1.71E+02	5.39E+01	4.94E+01	3.03E+01	2.74E+01	1.44E+00	1.30E+00
0.100	40.67	9.16E+00	7.16E+00	2.25E+02	1.76E+02	5.45E+01	5.00E+01	3.07E+01	2.79E+01	1.25E+00	1.14E+00
0.100	35.57	8.74E+00	6.78E+00	2.46E+02	1.91E+02	5.63E+01	5.15E+01	3.21E+01	2.90E+01	1.14E+00	1.03E+00
0.200	95.44	4.84E+02	1.89E+02	5.07E+03	1.98E+03	1.59E+02	1.15E+02	9.82E+01	6.95E+01	9.37E+00	6.53E+00
0.200	88.03	9.96E+01	6.14E+01	1.13E+03	6.98E+02	9.52E+01	8.05E+01	5.65E+01	4.69E+01	4.97E+00	4.13E+00
0.200	81.69	4.83E+01	3.36E+01	5.91E+02	4.11E+02	7.60E+01	6.70E+01	4.42E+01	3.82E+01	3.61E+00	3.12E+00
0.200	76.20	3.09E+01	2.27E+01	4.05E+02	2.97E+02	6.67E+01	5.98E+01	3.82E+01	3.37E+01	2.91E+00	2.57E+00
0.200	71.40	2.24E+01	1.70E+01	3.14E+02	2.38E+02	6.10E+01	5.53E+01	3.46E+01	3.09E+01	2.47E+00	2.21E+00
0.200	63.42	1.47E+01	1.15E+01	2.32E+02	1.81E+02	5.47E+01	5.04E+01	3.08E+01	2.78E+01	1.95E+00	1.76E+00
0.200	57.04	1.12E+01	8.92E+00	1.97E+02	1.56E+02	5.19E+01	4.79E+01	2.90E+01	2.63E+01	1.65E+00	1.50E+00
0.200	51.82	9.40E+00	7.52E+00	1.81E+02	1.45E+02	5.05E+01	4.67E+01	2.81E+01	2.56E+01	1.46E+00	1.33E+00
0.200	47.48	8.37E+00	6.71E+00	1.76E+02	1.41E+02	5.05E+01	4.63E+01	2.79E+01	2.54E+01	1.32E+00	1.21E+00
0.200	40.67	7.46E+00	5.96E+00	1.83E+02	1.47E+02	5.08E+01	4.69E+01	2.85E+01	2.60E+01	1.16E+00	1.06E+00
0.200	35.57	7.20E+00	5.71E+00	2.02E+02	1.60E+02	5.27E+01	4.85E+01	2.98E+01	2.71E+01	1.06E+00	9.63E-01
0.300	104.21		7.56E+03		7.26E+04		3.92E+02		2.50E+02		2.60E+01

1.50% ^{235}U (continued)

DIAMETER OF CYLINDER	AVE U235 DENSITY	MASS OF U235(KG)		VOLUME(LITERS)		DIA. OF CYL.(CM)		WIDTH OF SLAB(CM)		G U235 PER SQ CM	
				CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE
0.300	95.44	2.53E+02	1.25E+02	2.52E+03	1.31E+03	1.27E+02	9.99E+01	7.71E+01	5.95E+01	7.36E+00	5.68E+00
0.300	88.03	7.06E+01	4.69E+01	8.03E+02	5.33E+02	8.45E+01	7.33E+01	4.96E+01	4.23E+01	4.37E+00	3.72E+00
0.300	81.69	3.75E+01	2.72E+01	4.59E+02	3.33E+02	6.96E+01	6.22E+01	4.00E+01	3.52E+01	3.27E+00	2.87E+00
0.300	76.20	2.44E+01	1.89E+01	3.27E+02	2.46E+02	6.19E+01	5.61E+01	3.51E+01	3.13E+01	2.68E+00	2.39E+00
0.300	71.40	1.85E+01	1.44E+01	2.60E+02	2.02E+02	5.72E+01	5.23E+01	3.22E+01	2.90E+01	2.30E+00	2.07E+00
0.300	63.42	1.25E+01	1.00E+01	1.98E+02	1.58E+02	5.20E+01	4.80E+01	2.89E+01	2.63E+01	1.84E+00	1.67E+00
0.300	57.04	9.81E+00	7.91E+00	1.72E+02	1.39E+02	4.95E+01	4.59E+01	2.75E+01	2.51E+01	1.57E+00	1.43E+00
0.300	51.82	8.32E+00	6.74E+00	1.61E+02	1.30E+02	4.84E+01	4.49E+01	2.68E+01	2.45E+01	1.39E+00	1.27E+00
0.300	47.48	7.49E+00	6.03E+00	1.59E+02	1.28E+02	4.81E+01	4.47E+01	2.67E+01	2.44E+01	1.27E+00	1.16E+00
0.300	40.67	6.82E+00	5.51E+00	1.68E+02	1.35E+02	4.93E+01	4.57E+01	2.75E+01	2.52E+01	1.12E+00	1.02E+00
0.300	35.57	6.73E+00	5.38E+00	1.89E+02	1.51E+02	5.14E+01	4.75E+01	2.90E+01	2.65E+01	1.03E+00	9.42E-01
0.400	104.21		1.43E+03		1.37E+04		2.23E+02		1.40E+02		1.46E+01
0.400	95.44	1.68E+02	9.44E+01	1.76E+03	9.89E+02	1.11E+02	9.08E+01	6.66E+01	5.35E+01	6.35E+00	5.11E+00
0.400	88.03	5.63E+01	3.90E+01	6.39E+02	4.43E+02	7.81E+01	6.87E+01	4.55E+01	3.93E+01	4.00E+00	3.46E+00
0.400	81.69	3.14E+01	2.34E+01	3.84E+02	2.86E+02	6.55E+01	5.90E+01	3.74E+01	3.31E+01	3.05E+00	2.71E+00
0.400	76.20	2.13E+01	1.66E+01	2.82E+02	2.18E+02	5.88E+01	5.36E+01	3.31E+01	2.98E+01	2.53E+00	2.27E+00
0.400	71.40	1.64E+01	1.29E+01	2.29E+02	1.80E+02	5.47E+01	5.02E+01	3.06E+01	2.77E+01	2.18E+00	1.97E+00
0.400	63.42	1.13E+01	9.13E+00	1.79E+02	1.44E+02	5.02E+01	4.64E+01	2.78E+01	2.54E+01	1.76E+00	1.61E+00
0.400	57.04	9.02E+00	7.33E+00	1.58E+02	1.29E+02	4.81E+01	4.47E+01	2.66E+01	2.43E+01	1.51E+00	1.39E+00
0.400	51.82	7.76E+00	6.34E+00	1.50E+02	1.22E+02	4.72E+01	4.39E+01	2.61E+01	2.39E+01	1.35E+00	1.24E+00
0.400	47.48	7.08E+00	5.78E+00	1.49E+02	1.22E+02	4.72E+01	4.39E+01	2.61E+01	2.40E+01	1.24E+00	1.14E+00
0.400	40.67	6.61E+00	5.36E+00	1.63E+02	1.32E+02	4.87E+01	4.52E+01	2.72E+01	2.50E+01	1.11E+00	1.02E+00
0.400	35.57	6.71E+00	5.38E+00	1.89E+02	1.51E+02	5.14E+01	4.75E+01	2.90E+01	2.65E+01	1.03E+00	9.43E-01
0.600	104.21	2.49E+03	4.31E+02	2.39E+04	4.33E+03	2.70E+02	1.51E+02	1.73E+02	9.26E+01	1.77E+01	9.65E+00
0.600	95.44	1.04E+02	6.58E+01	1.09E+03	6.90E+02	9.39E+01	8.01E+01	5.57E+01	4.67E+01	5.31E+00	4.45E+00
0.600	88.03	4.18E+01	3.04E+01	4.75E+02	3.46E+02	7.05E+01	6.30E+01	4.06E+01	3.57E+01	3.57E+00	3.14E+00
0.600	81.69	2.51E+01	1.93E+01	3.07E+02	2.36E+02	6.05E+01	5.51E+01	3.43E+01	3.07E+01	2.80E+00	2.51E+00
0.600	76.20	1.79E+01	1.41E+01	2.35E+02	1.85E+02	5.51E+01	5.07E+01	3.08E+01	2.79E+01	2.35E+00	2.13E+00
0.600	71.40	1.40E+01	1.12E+01	1.96E+02	1.57E+02	5.18E+01	4.79E+01	2.88E+01	2.62E+01	2.06E+00	1.87E+00
0.600	63.42	1.01E+01	8.27E+00	1.60E+02	1.30E+02	4.83E+01	4.49E+01	2.66E+01	2.44E+01	1.69E+00	1.55E+00
0.600	57.04	8.34E+00	6.85E+00	1.46E+02	1.20E+02	4.68E+01	4.36E+01	2.58E+01	2.37E+01	1.47E+00	1.35E+00
0.600	51.82	7.41E+00	6.09E+00	1.43E+02	1.18E+02	4.65E+01	4.34E+01	2.57E+01	2.36E+01	1.33E+00	1.22E+00
0.600	47.48	6.97E+00	5.72E+00	1.47E+02	1.20E+02	4.70E+01	4.38E+01	2.61E+01	2.40E+01	1.24E+00	1.14E+00
0.600	40.67	6.94E+00	5.63E+00	1.71E+02	1.38E+02	4.96E+01	4.61E+01	2.79E+01	2.56E+01	1.13E+00	1.04E+00
0.600	35.57	7.60E+00	6.04E+00	2.14E+02	1.70E+02	5.37E+01	4.96E+01	3.06E+01	2.79E+01	1.09E+00	9.93E-01
0.800	104.21	7.57E+02	2.66E+02	7.28E+03	2.55E+03	1.80E+02	1.26E+02	1.12E+02	7.63E+01	1.17E+01	7.95E+00
0.800	95.44	7.87E+01	5.29E+01	8.24E+02	5.54E+02	8.53E+01	7.43E+01	5.01E+01	4.29E+01	4.78E+00	4.09E+00
0.800	88.03	3.50E+01	2.62E+01	3.98E+02	2.98E+02	6.63E+01	5.98E+01	3.79E+01	3.37E+01	3.34E+00	2.97E+00
0.800	81.69	2.29E+01	1.72E+01	2.69E+02	2.10E+02	5.78E+01	5.30E+01	3.26E+01	2.94E+01	2.66E+00	2.40E+00
0.800	76.20	1.62E+01	1.29E+01	2.12E+02	1.69E+02	5.32E+01	4.92E+01	2.97E+01	2.70E+01	2.26E+00	2.06E+00
0.800	71.40	1.29E+01	1.05E+01	1.81E+02	1.47E+02	5.04E+01	4.68E+01	2.79E+01	2.55E+01	1.99E+00	1.82E+00
0.800	63.42	9.74E+00	7.99E+00	1.54E+02	1.26E+02	4.76E+01	4.44E+01	2.63E+01	2.41E+01	1.67E+00	1.53E+00
0.800	57.04	8.30E+00	6.83E+00	1.45E+02	1.20E+02	4.68E+01	4.36E+01	2.58E+01	2.38E+01	1.47E+00	1.36E+00
0.800	51.82	7.63E+00	6.27E+00	1.47E+02	1.21E+02	4.70E+01	4.39E+01	2.61E+01	2.40E+01	1.35E+00	1.24E+00
0.800	47.48	7.43E+00	6.08E+00	1.57E+02	1.28E+02	4.81E+01	4.48E+01	2.69E+01	2.47E+01	1.28E+00	1.17E+00
0.800	40.67	8.05E+00	6.46E+00	1.98E+02	1.59E+02	5.23E+01	4.84E+01	2.97E+01	2.72E+01	1.21E+00	1.10E+00
0.800	35.57	9.80E+00	7.61E+00	2.76E+02	2.14E+02	5.88E+01	5.38E+01	3.40E+01	3.07E+01	1.21E+00	1.09E+00
1.000	104.21	4.32E+02	1.92E+02	4.15E+03	1.84E+03	1.49E+02	1.13E+02	9.13E+01	6.77E+01	9.52E+00	7.06E+00
1.000	95.44	6.58E+01	4.58E+01	6.90E+02	4.79E+02	8.02E+01	7.07E+01	4.69E+01	4.06E+01	4.47E+00	3.88E+00
1.000	88.03	3.13E+01	2.38E+01	3.56E+02	2.71E+02	6.37E+01	5.79E+01	3.63E+01	3.25E+01	3.20E+00	2.86E+00
1.000	81.69	2.03E+01	1.61E+01	2.49E+02	1.96E+02	5.63E+01	5.18E+01	3.16E+01	2.86E+01	2.58E+00	2.34E+00
1.000	76.20	1.53E+01	1.23E+01	2.01E+02	1.62E+02	5.23E+01	4.84E+01	2.91E+01	2.66E+01	2.22E+00	2.02E+00
1.000	71.40	1.25E+01	1.02E+01	1.76E+02	1.43E+02	4.99E+01	4.64E+01	2.76E+01	2.53E+01	1.97E+00	1.81E+00
1.000	63.42	9.80E+00	8.05E+00	1.55E+02	1.27E+02	4.78E+01	4.45E+01	2.64E+01	2.43E+01	1.68E+00	1.54E+00
1.000	57.04	8.66E+00	7.12E+00	1.52E+02	1.25E+02	4.75E+01	4.43E+01	2.64E+01	2.43E+01	1.51E+00	1.39E+00
1.000	51.82	8.29E+00	6.79E+00	1.60E+02	1.31E+02	4.85E+01	4.52E+01	2.71E+01	2.49E+01	1.40E+00	1.29E+00
1.000	47.48	8.45E+00	6.86E+00	1.78E+02	1.44E+02	5.04E+01	4.68E+01	2.84E+01	2.61E+01	1.35E+00	1.24E+00
1.000	40.67	1.02E+01	8.06E+00	2.52E+02	1.98E+02	5.70E+01	5.24E+01	3.28E+01	2.98E+01	1.33E+00	1.21E+00
1.000	35.57	1.47E+01	1.09E+01	4.13E+02	3.07E+02	6.78E+01	6.11E+01	3.99E+01	3.55E+01	1.42E+00	1.26E+00
1.200	104.21	3.09E+02	1.55E+02	2.96E+03	1.48E+03	1.33E+02	1.04E+02	8.08E+01	6.25E+01	8.42E+00	6.51E+00
1.200	95.44	5.82E+01	4.14E+01	6.10E+02	4.34E+02	7.69E+01	6.82E+01	4.47E+01	3.91E+01	4.27E+00	3.73E+00
1.200	88.03	2.91E+01	2.24E+01	3.31E+02	2.54E+02	6.22E+01	5.67E+01	3.53E+01	3.18E+01	3.11E+00	2.80E+00
1.200	81.69	1.95E+01	1.55E+01	2.38E+02	1.90E+02	5.55E+01	5.12E+01	3.11E+01	2.83E+01	2.54E+00	2.31E+00
1.200	76.20	1.50E+01	1.21E+01	1.97E+02	1.59E+02	5.13E+01	4.82E+01	2.30E+01	2.66E+01	2.21E+00	2.02E+00
1.200	71.40	1.25E+01	1.02E+01	1.76E+02	1.43E+02	4.99E+01	4.64E+01	2.77E+01	2.55E+01	1.98E+00	1.82E+00
1.200	63.42	1.02E+01	8.37E+00	1.61E+02	1.32E+02	4.85E+01	4.52E+01	2.70E+01	2.48E+01	1.71E+00	1.57E+00
1.200	57.04	9.42E+00	7.72E+00	1.55E+02	1.35E+02	4.90E+01	4.57E+01	2.74E+01	2.52E+01	1.56E+00	1.44E+00
1.200	51.82	9.46E+00	7.69E+00	1.83E+02	1.48E+02	5.09E+01	4.72E+01	2.87E+01	2.63E+01	1.49E+00	1.36E+00
1.200	47.48	1.02E+01	8.18E+00	2.15E+02	1.72E+02	5.37E+01	4.98E+01	3.08E+01	2.81E+01	1.46E+00	1.33E+00
1.200	40.67	1.43E+01	1.10E+01	3.57E+02	2.71E+02	6.44E+01	5.85E+01	3.77E+01	3.38E+01	1.53E+00	1.38E+00
1.200	35.57	1.98E+01	1.41E+01	5.36E+02	3.97E+02	7.52E+01	6.69E+01	4.48E+01	3.94E+01	1.59E+00	1.40E+00
1.500	104.21	2.25E+02	1.25E+02	2.16E+03	1.20E+03	1.13E+02	9.73E+01	7.20E+01	5.77E+01	7.51E+00	6.02E+00
1.500	95.44	5.13E+01	3.77E+01	5.44E+02	3.95E+02	7.39E+01	6.61E+01	4.29E+01	3.78E+01	4.09E+00	3.61E+00
1.500	88.03	2.76E+01	2.14E+01	3.13E+02	2.43E+02	6.10E+01	5.58E+01	3.47E+01	3.13E+01	3.05E+00	2.75E+00
1.500	81.69	1.92E+01	1.53E+01	2.35E+02	1.87E+02	5.53E+01	5.10E+01	3.11E+01	2.83E+01	2.54E+00	2.31E+00
1.500	76.20	1.53E+01	1.24E+01	2.01E+02	1.62E+02	5.23E+01	4.86E+01	2.93E+01	2.68E+01	2.23E+00	2.04E+00
1.500	71.40	1.32E+01	1.08E+01	1.85E+02	1.51E+02	5.09E+01	4.73E+01	2.85E+01	2.61E+01	2.03E+00	1.87E+00
1.500	63.42	1.15E+01	9.40E+00	1.82E+02	1.48E+02	5.07E+01	4.72E+01	2.85E+01	2.62E+01	1.81E+00	1.66E+00
1.500	57.04	1.15E+01	9.32E+00	2.32E+02	1.83E+02	5.27E+01	4.89E+01	2.99E+01	2.74E+01	1.71E+00	1.56E+00
1.500	51.82	1.28E+01	1.01E+01	2.46E+02	1.95E+02	5.66E+01	5.21E+01	3.25E+01	2.96E+01	1.68E+00	1.53E+00
1.500	47.48	1.55E+01	1.19E+01	3.26E+02	2.51E+02	6.24E+01	5.70E+01	3.64E+01	3.28E+01	1.73E+00	1.56E+00
1.500	40.67	3.34E+01	2.24E+01	8.21E+02	5.52E+02	8.60E+01	7.50E+01	5.19E+01	4.47E+01	2.11E+00	1.82E+00
1.500	35.57	2.63E+02	8.80E+01	7.38E+03	2.47E+03	1.82E+02	1.26E+02	1.15E+02	7.78E+01	4.08E+00	2.77E+00

2.00% ^{235}U

DIAMETER OF REGION (CM)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G-U235 PER SQ CM CRITICAL	G-U235 PER SQ CM SAFE
0.	108.92	3.26E+01	3.73E+01	[illegible]	[illegible]	7.09E+01	6.25E+01	4.03E+01	3.50E+01	4.39E+00	3.81E+00
0.	95.20	2.37E+01	1.82E+01	2.49E+02	1.71E+02	5.60E+01	5.10E+01	3.10E+01	2.77E+01	2.95E+00	2.63E+00
0.	84.56	[illegible]	[illegible]	[illegible]	[illegible]	5.32E+01	4.81E+01	2.74E+01	2.47E+01	2.32E+00	2.09E+00
0.	76.05	1.17E+01	9.39E+00	1.64E+02	1.23E+02	4.74E+01	4.37E+01	2.57E+01	2.33E+01	1.95E+00	1.77E+00
0.	69.10	9.75E+00	7.86E+00	1.41E+02	1.14E+02	4.60E+01	4.26E+01	2.49E+01	2.26E+01	1.72E+00	1.56E+00
0.	63.31	8.68E+00	6.95E+00	1.36E+02	1.10E+02	4.54E+01	4.20E+01	2.46E+01	2.24E+01	1.56E+00	1.42E+00
0.	58.42	7.87E+00	6.37E+00	1.36E+02	1.09E+02	4.53E+01	4.20E+01	2.46E+01	2.24E+01	1.44E+00	1.31E+00
0.	54.23	7.41E+00	6.00E+00	1.37E+02	1.11E+02	4.56E+01	4.23E+01	2.48E+01	2.26E+01	1.35E+00	1.23E+00
0.	50.60	7.14E+00	5.76E+00	1.41E+02	1.14E+02	4.61E+01	4.27E+01	2.53E+01	2.30E+01	1.28E+00	1.16E+00
0.	47.43	6.99E+00	5.63E+00	1.47E+02	1.19E+02	4.67E+01	4.34E+01	2.58E+01	2.35E+01	1.22E+00	1.11E+00
0.	42.14	6.88E+00	5.58E+00	1.66E+02	1.32E+02	4.89E+01	4.52E+01	2.72E+01	2.47E+01	1.15E+00	1.04E+00
0.	37.91	7.25E+00	5.73E+00	1.91E+02	1.51E+02	5.15E+01	4.74E+01	2.89E+01	2.62E+01	1.10E+00	9.93E-01
0.	34.46	7.81E+00	6.08E+00	2.27E+02	1.76E+02	5.47E+01	5.01E+01	3.11E+01	2.80E+01	1.07E+00	9.64E-01
0.	31.58	8.63E+00	6.59E+00	2.73E+02	2.07E+02	5.85E+01	5.32E+01	3.35E+01	3.00E+01	1.06E+00	9.48E-01
0.	27.06	1.16E+01	8.37E+00	4.28E+02	3.09E+02	6.84E+01	6.11E+01	4.01E+01	3.52E+01	1.08E+00	9.53E-01
0.	23.67	1.77E+01	1.18E+01	7.58E+02	5.02E+02	8.35E+01	7.23E+01	4.99E+01	4.25E+01	1.18E+00	1.01E+00
0.050	108.92	4.82E+01	3.46E+01	4.43E+02	3.19E+02	6.85E+01	6.10E+01	3.90E+01	3.40E+01	4.25E+00	3.71E+00
0.050	95.20	2.12E+01	1.65E+01	2.23E+02	1.73E+02	5.39E+01	4.93E+01	2.97E+01	2.66E+01	2.83E+00	2.54E+00
0.050	84.56	1.33E+01	1.07E+01	1.58E+02	1.26E+02	4.78E+01	4.41E+01	2.59E+01	2.34E+01	2.19E+00	1.98E+00
0.050	76.05	9.85E+00	8.01E+00	1.28E+02	1.05E+02	4.46E+01	4.14E+01	2.40E+01	2.18E+01	1.82E+00	1.66E+00
0.050	69.10	8.15E+00	6.68E+00	1.18E+02	9.66E+01	4.32E+01	4.02E+01	2.32E+01	2.11E+01	1.60E+00	1.46E+00
0.050	63.31	7.19E+00	5.91E+00	1.14E+02	9.33E+01	4.26E+01	3.97E+01	2.29E+01	2.09E+01	1.45E+00	1.32E+00
0.050	58.42	6.55E+00	5.39E+00	1.12E+02	9.23E+01	4.25E+01	3.96E+01	2.28E+01	2.09E+01	1.33E+00	1.22E+00
0.050	54.23	6.12E+00	5.04E+00	1.13E+02	9.30E+01	4.26E+01	3.97E+01	2.30E+01	2.11E+01	1.25E+00	1.14E+00
0.050	50.60	5.83E+00	4.80E+00	1.15E+02	9.44E+01	4.30E+01	4.01E+01	2.33E+01	2.13E+01	1.18E+00	1.08E+00
0.050	47.43	5.65E+00	4.64E+00	1.19E+02	9.78E+01	4.35E+01	4.05E+01	2.37E+01	2.17E+01	1.12E+00	1.03E+00
0.050	42.14	5.50E+00	4.49E+00	1.31E+02	1.07E+02	4.50E+01	4.18E+01	2.47E+01	2.26E+01	1.04E+00	9.53E-01
0.050	37.91	5.56E+00	4.50E+00	1.47E+02	1.19E+02	4.69E+01	4.35E+01	2.60E+01	2.38E+01	9.87E-01	9.01E-01
0.050	34.46	5.80E+00	4.65E+00	1.68E+02	1.35E+02	4.93E+01	4.56E+01	2.76E+01	2.52E+01	9.51E-01	8.67E-01
0.050	31.58	6.24E+00	4.94E+00	1.98E+02	1.56E+02	5.22E+01	4.81E+01	2.95E+01	2.68E+01	9.32E-01	8.46E-01
0.050	27.06	7.75E+00	5.91E+00	2.86E+02	2.18E+02	5.95E+01	5.41E+01	3.43E+01	3.08E+01	9.29E-01	8.33E-01
0.050	23.67	1.06E+01	7.68E+00	4.50E+02	3.25E+02	6.97E+01	6.22E+01	4.10E+01	3.61E+01	9.70E-01	8.54E-01
0.100	108.92	3.97E+01	2.94E+01	3.65E+02	2.70E+02	6.40E+01	5.75E+01	3.61E+01	3.18E+01	3.93E+00	3.47E+00
0.100	95.20	1.81E+01	1.43E+01	1.90E+02	1.50E+02	5.09E+01	4.68E+01	2.78E+01	2.51E+01	2.65E+00	2.39E+00
0.100	84.56	1.16E+01	9.33E+00	1.37E+02	1.11E+02	4.54E+01	4.21E+01	2.44E+01	2.22E+01	2.07E+00	1.88E+00
0.100	76.05	8.68E+00	7.13E+00	1.14E+02	9.38E+01	4.26E+01	3.97E+01	2.27E+01	2.08E+01	1.73E+00	1.58E+00
0.100	69.10	7.16E+00	5.93E+00	1.04E+02	8.59E+01	4.12E+01	3.85E+01	2.19E+01	2.01E+01	1.52E+00	1.39E+00
0.100	63.31	6.29E+00	5.22E+00	9.93E+01	8.24E+01	4.07E+01	3.80E+01	2.16E+01	1.99E+01	1.37E+00	1.26E+00
0.100	58.42	5.71E+00	4.75E+00	9.79E+01	8.13E+01	4.05E+01	3.79E+01	2.16E+01	1.98E+01	1.26E+00	1.16E+00
0.100	54.23	5.33E+00	4.43E+00	9.82E+01	8.18E+01	4.06E+01	3.80E+01	2.17E+01	2.00E+01	1.18E+00	1.08E+00
0.100	50.60	5.07E+00	4.22E+00	1.00E+02	8.33E+01	4.09E+01	3.83E+01	2.20E+01	2.02E+01	1.11E+00	1.02E+00
0.100	47.43	4.91E+00	4.07E+00	1.03E+02	8.58E+01	4.14E+01	3.87E+01	2.23E+01	2.05E+01	1.06E+00	9.74E-01
0.100	42.14	4.77E+00	3.94E+00	1.13E+02	9.35E+01	4.28E+01	4.00E+01	2.33E+01	2.14E+01	9.82E-01	9.03E-01
0.100	37.91	4.32E+00	3.95E+00	1.27E+02	1.04E+02	4.46E+01	4.16E+01	2.46E+01	2.25E+01	9.31E-01	8.54E-01
0.100	34.46	5.02E+00	4.08E+00	1.46E+02	1.18E+02	4.69E+01	4.35E+01	2.61E+01	2.39E+01	8.98E-01	8.23E-01
0.100	31.58	5.36E+00	4.31E+00	1.70E+02	1.37E+02	4.95E+01	4.58E+01	2.78E+01	2.54E+01	8.78E-01	8.02E-01
0.100	27.06	6.58E+00	5.12E+00	2.43E+02	1.89E+02	5.62E+01	5.15E+01	3.22E+01	2.91E+01	8.72E-01	7.88E-01
0.100	23.67	8.89E+00	6.59E+00	3.76E+02	2.79E+02	6.55E+01	5.90E+01	3.83E+01	3.40E+01	9.07E-01	8.05E-01
0.200	108.92	2.08E+01	2.23E+01	2.73E+02	2.09E+02	5.79E+01	5.26E+01	3.22E+01	2.87E+01	3.50E+00	3.12E+00
0.200	95.20	1.45E+01	1.17E+01	1.52E+02	1.23E+02	4.71E+01	4.36E+01	2.54E+01	2.31E+01	2.42E+00	2.20E+00
0.200	84.56	9.55E+00	7.87E+00	1.13E+02	9.31E+01	4.24E+01	3.95E+01	2.29E+01	2.06E+01	1.91E+00	1.74E+00
0.200	76.05	7.28E+00	6.07E+00	9.59E+01	7.98E+01	4.01E+01	3.75E+01	2.11E+01	1.94E+01	1.61E+00	1.48E+00
0.200	69.10	6.06E+00	5.08E+00	8.77E+01	7.36E+01	3.89E+01	3.65E+01	2.05E+01	1.88E+01	1.41E+00	1.30E+00
0.200	63.31	5.33E+00	4.48E+00	8.43E+01	7.08E+01	3.84E+01	3.60E+01	2.02E+01	1.86E+01	1.28E+00	1.18E+00
0.200	58.42	4.87E+00	4.09E+00	8.33E+01	7.01E+01	3.83E+01	3.59E+01	2.02E+01	1.86E+01	1.18E+00	1.09E+00
0.200	54.23	4.56E+00	3.84E+00	8.41E+01	7.07E+01	3.84E+01	3.61E+01	2.04E+01	1.88E+01	1.10E+00	1.02E+00
0.200	50.60	4.36E+00	3.67E+00	8.62E+01	7.25E+01	3.88E+01	3.64E+01	2.07E+01	1.91E+01	1.05E+00	9.66E-01
0.200	47.43	4.24E+00	3.56E+00	8.95E+01	7.51E+01	3.94E+01	3.69E+01	2.11E+01	1.95E+01	9.99E-01	9.23E-01
0.200	42.14	4.18E+00	3.49E+00	9.91E+01	8.23E+01	4.08E+01	3.83E+01	2.21E+01	2.04E+01	9.32E-01	8.60E-01
0.200	37.91	4.27E+00	3.54E+00	1.13E+02	9.34E+01	4.28E+01	4.00E+01	2.34E+01	2.16E+01	8.88E-01	8.18E-01
0.200	34.46	4.51E+00	3.70E+00	1.31E+02	1.07E+02	4.52E+01	4.21E+01	2.50E+01	2.30E+01	8.62E-01	7.92E-01
0.200	31.58	4.88E+00	3.96E+00	1.55E+02	1.25E+02	4.79E+01	4.45E+01	2.68E+01	2.46E+01	8.47E-01	7.76E-01
0.200	27.06	6.16E+00	4.84E+00	2.28E+02	1.77E+02	5.50E+01	5.05E+01	3.15E+01	2.85E+01	8.52E-01	7.72E-01
0.200	23.67	8.47E+00	6.47E+00	3.66E+02	2.73E+02	6.53E+01	5.86E+01	3.80E+01	3.38E+01	8.99E-01	8.01E-01
0.300	108.92	2.45E+01	1.92E+01	2.25E+02	1.76E+02	5.40E+01	4.95E+01	2.97E+01	2.67E+01	3.24E+00	2.91E+00
0.300	95.20	1.25E+01	1.02E+01	1.31E+02	1.07E+02	4.47E+01	4.15E+01	2.39E+01	2.18E+01	2.27E+00	2.07E+00
0.300	84.56	8.41E+00	7.00E+00	9.95E+01	8.23E+01	4.06E+01	3.77E+01	2.14E+01	1.96E+01	1.81E+00	1.66E+00
0.300	76.05	6.52E+00	5.48E+00	8.57E+01	7.2 E+01	3.85E+01	3.61E+01	2.02E+01	1.86E+01	1.53E+00	1.41E+00
0.300	69.10	5.48E+00	4.63E+00	7.94E+01	6.72E+01	3.75E+01	3.53E+01	1.96E+01	1.81E+01	1.36E+00	1.25E+00
0.300	63.31	4.86E+00	4.12E+00	7.63E+01	6.57E+01	3.71E+01	3.49E+01	1.94E+01	1.80E+01	1.23E+00	1.14E+00
0.300	58.42	4.48E+00	3.79E+00	7.67E+01	6.43E+01	3.71E+01	3.50E+01	1.95E+01	1.81E+01	1.14E+00	1.05E+00
0.300	54.23	4.24E+00	3.58E+00	7.81E+01	6.61E+01	3.74E+01	3.52E+01	1.98E+01	1.83E+01	1.07E+00	9.92E-01
0.300	50.60	4.08E+00	3.46E+00	8.07E+01	6.83E+01	3.79E+01	3.57E+01	2.01E+01	1.86E+01	1.02E+00	9.43E-01
0.300	47.43	4.01E+00	3.38E+00	8.45E+01	7.13E+01	3.86E+01	3.63E+01	2.06E+01	1.91E+01	9.78E-01	9.05E-01
0.300	42.14	4.02E+00	3.37E+00	9.54E+01	8.0 E+01	4.03E+01	3.78E+01	2.18E+01	2.02E+01	9.19E-01	8.49E-01
0.300	37.91	4.20E+00	3.49E+00	1.11E+02	9.20E+01	4.26E+01	3.98E+01	2.33E+01	2.15E+01	8.84E-01	8.15E-01
0.300	34.46	4.53E+00	3.72E+00	1.31E+02	1.08E+02	4.53E+01	4.22E+01	2.51E+01	2.31E+01	8.65E-01	7.95E-01
0.300	31.58	5.02E+00	4.07E+00	1.57E+02	1.29E+02	4.84E+01	4.50E+01	2.72E+01	2.49E+01	8.53E-01	7.87E-01
0.300	27.06	6.73E+00	5.25E+00	2.43E+02	1.94E+02	5.67E+01	5.20E+01	3.27E+01	2.95E+01	8.84E-01	7.99E-01
0.300	23.67	1.04E+01	7.56E+00	4.37E+02	3.13E+02	6.91E+01	6.17E+01	4.07E+01	3.60E+01	9.64E-01	8.52E-01
0.400	108.92	2.12E+01	1.69E+01	1.79E+02	1.39E+02	5.14E+01	4.73E+01	2.83E+01	2.53E+01	3.05E+00	2.76E+00
0.400	95.20	1.12E+01	9.23E+00	1.14E+02	9.27E+01	4.33E+01	4.01E+01	2.29E+01	2.09E+01	2.17E+00	1.99E+00
0.400	84.56	7.79E+00	6.46E+00	9.11E+01	7.48E+01	3.93E+01	3.68E+01	2.06E+01	1.90E+01	1.74E+00	1.62E+00
0.400	76.05	6.06E+00	5.12E+00	7.97E+01	6.73E+01	3.76E+01	3.53E+01	1.96E+01	1.81E+01	1.49E+00	1.37E+00
0.400	69.10	5.17E+00	4.38E+00	7.47E+01	6.34E+01	3.67E+01	3.46E+01	1.92E+01	1.77E+01	1.32E+00	1.22E+00
0.400	63.31	4.63E+00	3.93E+00	7.31E+01	6.21E+01	3.65E+01	3.44E+01	1.91E+01	1.77E+01	1.21E+00	1.12E+00
0.400	58.42	4.31E+00	3.66E+00	7.37E+01	6.26E+01	3.67E+01	3.45E+01	1.93E+01	1.78E+01	1.12E+00	1.04E+00
0.400	54.23	4.12E+00	3.49E+00	7.53E+01	[illegible]	3.71E+01	3.49E+01	1.96E+01	1.81E+01	1.06E+00	9.84E-01
0.400	50.60	4.02E+00	3.40E+00	7.84E+01	[illegible]	3.77E+01	3.55E+01	2.00E+01	1.86E+01	1.01E+00	9.42E-01
0.400	47.43	3.99E+00	3.37E+00	8.41E+01	7.13E+01	3.89E+01	3.66E+01	2.06E+01	1.91E+01	9.77E-01	9.05E-01

2.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.400	42.14	[illegible]	[illegible]	[illegible]	8.14E+01	[illegible]	3.81E+01	[illegible]	2.04E+01	9.28E-01	8.58E-01
0.400	37.91	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8.99E-01	8.29E-01
0.400	34.46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8.90E-01	8.18E-01
0.400	31.58	5.64E+00	4.46E+00	1.75E+02	1.41E+02	5.02E+01	4.65E+01	2.84E+01	2.59E+01	8.95E-01	8.19E-01
0.400	27.06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.52E-01	8.55E-01
0.400	23.67	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.600	108.92	1.74E+01	1.41E+01	1.60E+02	1.30E+02	4.79E+01	4.44E+01	2.59E+01	2.35E+01	2.82E+00	2.56E+00
0.600	95.20	9.71E+00	8.10E+00	1.02E+02	8.51E+01	4.09E+01	3.83E+01	2.15E+01	1.98E+01	2.05E+00	1.88E+00
0.600	84.56	6.93E+00	5.85E+00	8.19E+01	6.92E+01	3.79E+01	3.56E+01	1.97E+01	1.82E+01	1.67E+00	1.54E+00
0.600	76.05	5.60E+00	4.76E+00	7.37E+01	6.26E+01	3.65E+01	3.44E+01	1.90E+01	1.76E+01	1.44E+00	1.34E+00
0.600	69.10	4.89E+00	4.17E+00	7.08E+01	6.03E+01	3.61E+01	3.40E+01	1.88E+01	1.74E+01	1.30E+00	1.20E+00
0.600	63.31	4.49E+00	3.83E+00	7.10E+01	6.05E+01	3.62E+01	3.41E+01	1.89E+01	1.76E+01	1.20E+00	1.11E+00
0.600	58.42	4.28E+00	3.65E+00	7.33E+01	6.24E+01	3.66E+01	3.45E+01	1.93E+01	1.79E+01	1.13E+00	1.05E+00
0.600	54.23	4.20E+00	3.57E+00	7.74E+01	6.58E+01	3.74E+01	3.52E+01	1.98E+01	1.84E+01	1.08E+00	9.98E-01
0.600	50.60	4.21E+00	3.56E+00	8.31E+01	7.04E+01	3.84E+01	3.61E+01	2.05E+01	1.90E+01	1.04E+00	9.64E-01
0.600	47.43	4.30E+00	3.62E+00	9.06E+01	7.63E+01	3.96E+01	3.72E+01	2.14E+01	1.98E+01	1.01E+00	9.39E-01
0.600	42.14	4.68E+00	3.90E+00	1.11E+02	9.26E+01	4.27E+01	3.99E+01	2.34E+01	2.16E+01	9.87E-01	9.11E-01
0.600	37.91	5.38E+00	4.41E+00	1.42E+02	1.16E+02	4.66E+01	4.34E+01	2.60E+01	2.39E+01	9.85E-01	9.06E-01
0.600	34.46	6.52E+00	5.23E+00	1.89E+02	1.52E+02	5.15E+01	4.77E+01	2.93E+01	2.67E+01	1.01E+00	9.21E-01
0.600	31.58	8.32E+00	6.47E+00	2.63E+02	2.05E+02	5.79E+01	5.30E+01	3.35E+01	3.02E+01	1.06E+00	9.55E-01
0.600	27.06	1.71E+01	1.19E+01	6.33E+02	4.39E+02	7.86E+01	6.92E+01	4.70E+01	4.08E+01	1.27E+00	1.10E+00
0.600	23.67	7.32E+01	3.43E+01	3.09E+03	1.45E+03	1.35E+02	1.04E+02	8.41E+01	6.39E+01	1.99E+00	1.51E+00
0.800	108.92	1.53E+01	1.26E+01	1.41E+02	1.15E+02	4.58E+01	4.27E+01	2.46E+01	2.24E+01	2.68E+00	2.44E+00
0.800	95.20	8.94E+00	7.51E+00	9.39E+01	7.89E+01	3.97E+01	3.73E+01	2.08E+01	1.92E+01	1.98E+00	1.83E+00
0.800	84.56	6.58E+00	5.58E+00	7.78E+01	6.60E+01	3.72E+01	3.50E+01	1.94E+01	1.79E+01	1.64E+00	1.52E+00
0.800	76.05	5.47E+00	4.67E+00	7.19E+01	6.14E+01	3.63E+01	3.42E+01	1.89E+01	1.75E+01	1.44E+00	1.33E+00
0.800	69.10	4.91E+00	4.19E+00	7.11E+01	6.06E+01	3.62E+01	3.41E+01	1.89E+01	1.76E+01	1.31E+00	1.21E+00
0.800	63.31	4.64E+00	3.96E+00	7.33E+01	6.25E+01	3.66E+01	3.45E+01	1.93E+01	1.79E+01	1.22E+00	1.13E+00
0.800	58.42	4.56E+00	3.87E+00	7.81E+01	6.63E+01	3.75E+01	3.53E+01	1.99E+01	1.85E+01	1.16E+00	1.08E+00
0.800	54.23	4.61E+00	3.90E+00	8.51E+01	7.20E+01	3.87E+01	3.64E+01	2.08E+01	1.93E+01	1.13E+00	1.04E+00
0.800	50.60	4.78E+00	4.03E+00	9.45E+01	7.96E+01	4.02E+01	3.78E+01	2.18E+01	2.02E+01	1.10E+00	1.02E+00
0.800	47.43	5.06E+00	4.23E+00	1.07E+02	8.92E+01	4.20E+01	3.94E+01	2.30E+01	2.13E+01	1.09E+00	1.01E+00
0.800	42.14	6.02E+00	4.94E+00	1.43E+02	1.17E+02	4.67E+01	4.35E+01	2.61E+01	2.40E+01	1.10E+00	1.01E+00
0.800	37.91	7.72E+00	6.16E+00	2.04E+02	1.62E+02	5.29E+01	4.89E+01	3.02E+01	2.75E+01	1.14E+00	1.04E+00
0.800	34.46	1.08E+01	8.28E+00	3.14E+02	2.40E+02	6.17E+01	5.61E+01	3.59E+01	3.23E+01	1.24E+00	1.11E+00
0.800	31.58	1.72E+01	1.22E+01	5.43E+02	3.86E+02	7.46E+01	6.62E+01	4.44E+01	3.89E+01	1.40E+00	1.23E+00
0.800	27.06	1.10E+02	4.69E+01	4.08E+03	1.73E+03	1.49E+02	1.11E+02	9.29E+01	6.82E+01	2.51E+00	1.85E+00

3.00% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	142.81	1.61E+01	1.31E+01	1.13E+02	9.20E+01	4.21E+01	3.90E+01	2.17E+01	1.97E+01	3.10E+00	2.81E+00
0.	114.08	8.30E+00	6.95E+00	7.28E+01	6.09E+01	3.60E+01	3.38E+01	1.82E+01	1.66E+01	2.07E+00	1.90E+00
0.	94.97	5.86E+00	4.95E+00	6.17E+01	5.21E+01	3.40E+01	3.20E+01	1.71E+01	1.57E+01	1.62E+00	1.49E+00
0.	81.34	4.74E+00	4.03E+00	5.82E+01	4.95E+01	3.34E+01	3.15E+01	1.68E+01	1.55E+01	1.37E+00	1.26E+00
0.	71.14	4.14E+00	3.52E+00	5.82E+01	4.95E+01	3.35E+01	3.15E+01	1.70E+01	1.57E+01	1.21E+00	1.11E+00
0.	63.21	3.79E+00	3.22E+00	5.99E+01	5.10E+01	3.39E+01	3.19E+01	1.73E+01	1.60E+01	1.09E+00	1.01E+00
0.	56.87	3.58E+00	3.03E+00	6.29E+01	5.33E+01	3.45E+01	3.25E+01	1.78E+01	1.64E+01	1.01E+00	9.34E-01
0.	51.68	3.45E+00	2.92E+00	6.68E+01	5.65E+01	3.53E+01	3.32E+01	1.84E+01	1.70E+01	9.49E-01	8.77E-01
0.	47.37	3.39E+00	2.86E+00	7.16E+01	6.04E+01	3.63E+01	3.41E+01	1.90E+01	1.75E+01	9.00E-01	8.31E-01
0.	43.71	3.38E+00	2.84E+00	7.73E+01	6.49E+01	3.73E+01	3.50E+01	1.97E+01	1.82E+01	8.62E-01	7.95E-01
0.	40.59	3.40E+00	2.85E+00	8.37E+01	7.02E+01	3.84E+01	3.60E+01	2.05E+01	1.89E+01	8.31E-01	7.66E-01
0.	35.50	3.55E+00	2.95E+00	1.00E+02	8.30E+01	4.10E+01	3.83E+01	2.22E+01	2.04E+01	7.87E-01	7.25E-01
0.	31.55	3.85E+00	3.16E+00	1.22E+02	1.00E+02	4.40E+01	4.10E+01	2.42E+01	2.22E+01	7.63E-01	7.00E-01
0.	28.39	4.34E+00	3.49E+00	1.53E+02	1.23E+02	4.77E+01	4.41E+01	2.66E+01	2.43E+01	7.55E-01	6.89E-01
0.	25.81	5.06E+00	4.00E+00	1.96E+02	1.55E+02	5.21E+01	4.79E+01	2.95E+01	2.67E+01	7.61E-01	6.90E-01
0.	23.65	6.18E+00	4.74E+00	2.61E+02	2.01E+02	5.76E+01	5.25E+01	3.31E+01	2.97E+01	7.83E-01	7.03E-01
0.050	142.81	1.47E+01	1.21E+01	1.03E+02	8.47E+01	4.08E+01	3.79E+01	2.10E+01	1.91E+01	2.99E+00	2.72E+00
0.050	114.08	7.25E+00	6.13E+00	6.36E+01	5.37E+01	3.44E+01	3.23E+01	1.72E+01	1.58E+01	1.96E+00	1.80E+00
0.050	94.97	5.12E+00	4.37E+00	5.39E+01	4.60E+01	3.25E+01	3.06E+01	1.61E+01	1.49E+01	1.53E+00	1.41E+00
0.050	81.34	4.13E+00	3.53E+00	5.08E+01	4.35E+01	3.18E+01	3.00E+01	1.59E+01	1.47E+01	1.29E+00	1.19E+00
0.050	71.14	3.57E+00	3.06E+00	5.02E+01	4.30E+01	3.18E+01	3.00E+01	1.59E+01	1.48E+01	1.13E+00	1.05E+00
0.050	63.21	3.23E+00	2.77E+00	5.11E+01	4.39E+01	3.20E+01	3.03E+01	1.62E+01	1.50E+01	1.02E+00	9.49E-01
0.050	56.87	3.02E+00	2.59E+00	5.30E+01	4.55E+01	3.25E+01	3.07E+01	1.66E+01	1.54E+01	9.42E-01	8.74E-01
0.050	51.68	2.88E+00	2.47E+00	5.58E+01	4.78E+01	3.32E+01	3.13E+01	1.70E+01	1.58E+01	8.80E-01	8.17E-01
0.050	47.37	2.81E+00	2.41E+00	5.94E+01	5.08E+01	3.40E+01	3.20E+01	1.76E+01	1.63E+01	8.33E-01	7.73E-01
0.050	43.71	2.78E+00	2.37E+00	6.37E+01	5.43E+01	3.48E+01	3.28E+01	1.82E+01	1.69E+01	7.95E-01	7.38E-01
0.050	40.59	2.79E+00	2.36E+00	6.86E+01	5.82E+01	3.58E+01	3.37E+01	1.88E+01	1.75E+01	7.65E-01	7.10E-01
0.050	35.50	2.86E+00	2.41E+00	8.07E+01	6.80E+01	3.80E+01	3.57E+01	2.03E+01	1.88E+01	7.22E-01	6.67E-01
0.050	31.55	3.06E+00	2.55E+00	9.69E+01	8.09E+01	4.06E+01	3.80E+01	2.20E+01	2.03E+01	6.95E-01	6.42E-01
0.050	28.39	3.38E+00	2.78E+00	1.19E+02	9.80E+01	4.37E+01	4.07E+01	2.41E+01	2.21E+01	6.84E-01	6.29E-01
0.050	25.81	3.84E+00	3.11E+00	1.49E+02	1.21E+02	4.73E+01	4.39E+01	2.65E+01	2.42E+01	6.83E-01	6.24E-01
0.050	23.65	4.94E+00	3.61E+00	1.92E+02	1.53E+02	5.18E+01	4.77E+01	2.94E+01	2.67E+01	6.95E-01	6.32E-01
0.100	142.81	1.31E+01	1.09E+01	9.19E+01	7.61E+01	3.91E+01	3.65E+01	1.99E+01	1.82E+01	2.85E+00	2.60E+00
0.100	114.08	6.60E+00	5.61E+00	5.79E+01	4.92E+01	3.32E+01	3.13E+01	1.65E+01	1.52E+01	1.88E+00	1.73E+00
0.100	94.97	4.64E+00	3.98E+00	4.88E+01	4.19E+01	3.13E+01	2.96E+01	1.55E+01	1.43E+01	1.47E+00	1.36E+00
0.100	81.34	3.73E+00	3.21E+00	4.59E+01	3.95E+01	3.07E+01	2.90E+01	1.52E+01	1.41E+01	1.24E+00	1.15E+00
0.100	71.14	3.23E+00	2.79E+00	4.54E+01	3.92E+01	3.07E+01	2.90E+01	1.53E+01	1.42E+01	1.09E+00	1.01E+00
0.100	63.21	2.93E+00	2.53E+00	4.64E+01	4.01E+01	3.10E+01	2.93E+01	1.55E+01	1.44E+01	9.82E-01	9.13E-01
0.100	56.87	2.75E+00	2.37E+00	4.83E+01	4.17E+01	3.14E+01	2.98E+01	1.59E+01	1.48E+01	9.05E-01	8.41E-01
0.100	51.68	2.64E+00	2.27E+00	5.11E+01	4.39E+01	3.21E+01	3.04E+01	1.64E+01	1.52E+01	8.48E-01	7.88E-01
0.100	47.37	2.57E+00	2.21E+00	5.43E+01	4.67E+01	3.29E+01	3.11E+01	1.70E+01	1.58E+01	8.03E-01	7.47E-01

3.00 % ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DENSITY(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.100	43.71	2.55E+00	2.19E+00	5.84E+01	5.01E+01	3.38E+01	3.19E+01	1.76E+01	1.63E+01	7.67E-01	7.13E-01
0.100	40.59	2.56E+00	2.19E+00	6.31E+01	5.38E+01	3.47E+01	3.28E+01	1.82E+01	1.69E+01	7.39E-01	6.87E-01
0.100	35.50	2.65E+00	2.25E+00	7.47E+01	6.32E+01	3.70E+01	3.48E+01	1.97E+01	1.83E+01	6.99E-01	6.48E-01
0.100	31.55	2.84E+00	2.38E+00	9.00E+01	7.56E+01	3.96E+01	3.71E+01	2.14E+01	1.98E+01	6.75E-01	6.25E-01
0.100	28.39	3.15E+00	2.61E+00	1.11E+02	9.21E+01	4.27E+01	3.99E+01	2.35E+01	2.16E+01	6.66E-01	6.13E-01
0.100	25.81	3.62E+00	2.95E+00	1.40E+02	1.14E+02	4.64E+01	4.31E+01	2.59E+01	2.37E+01	6.68E-01	6.12E-01
0.100	23.65	4.32E+00	3.45E+00	1.83E+02	1.46E+02	5.09E+01	4.70E+01	2.88E+01	2.63E+01	6.82E-01	6.21E-01
0.200	142.81	1.12E+01	9.36E+00	7.82E+01	6.55E+01	3.69E+01	3.46E+01	1.86E+01	1.70E+01	2.66E+00	2.43E+00
0.200	114.08	5.79E+00	4.96E+00	5.08E+01	4.35E+01	3.17E+01	2.99E+01	1.56E+01	1.43E+01	1.77E+00	1.64E+00
0.200	94.97	4.10E+00	3.54E+00	4.32E+01	3.73E+01	3.00E+01	2.84E+01	1.47E+01	1.36E+01	1.39E+00	1.29E+00
0.200	81.34	3.33E+00	2.89E+00	4.10E+01	3.55E+01	2.95E+01	2.80E+01	1.45E+01	1.34E+01	1.18E+00	1.09E+00
0.200	71.14	2.92E+00	2.53E+00	4.11E+01	3.56E+01	2.96E+01	2.81E+01	1.46E+01	1.36E+01	1.04E+00	9.68E-01
0.200	63.21	2.68E+00	2.33E+00	4.25E+01	3.69E+01	3.00E+01	2.85E+01	1.50E+01	1.39E+01	9.48E-01	8.81E-01
0.200	56.87	2.55E+00	2.21E+00	4.48E+01	3.89E+01	3.06E+01	2.91E+01	1.55E+01	1.44E+01	8.79E-01	8.19E-01
0.200	51.68	2.48E+00	2.14E+00	4.80E+01	4.15E+01	3.14E+01	2.98E+01	1.60E+01	1.49E+01	8.28E-01	7.71E-01
0.200	47.37	2.45E+00	2.12E+00	5.18E+01	4.47E+01	3.23E+01	3.06E+01	1.67E+01	1.55E+01	7.89E-01	7.34E-01
0.200	43.71	2.47E+00	2.12E+00	5.64E+01	4.85E+01	3.34E+01	3.16E+01	1.74E+01	1.61E+01	7.58E-01	7.06E-01
0.200	40.59	2.51E+00	2.15E+00	6.18E+01	5.29E+01	3.45E+01	3.26E+01	1.81E+01	1.69E+01	7.35E-01	6.84E-01
0.200	35.50	2.67E+00	2.27E+00	7.53E+01	6.38E+01	3.71E+01	3.49E+01	1.98E+01	1.84E+01	7.04E-01	6.53E-01
0.200	31.55	2.96E+00	2.49E+00	9.40E+01	7.88E+01	4.02E+01	3.77E+01	2.19E+01	2.02E+01	6.90E-01	6.38E-01
0.200	28.39	3.41E+00	2.82E+00	1.20E+02	9.93E+01	4.39E+01	4.10E+01	2.43E+01	2.24E+01	6.90E-01	6.35E-01
0.200	25.81	4.09E+00	3.31E+00	1.59E+02	1.28E+02	4.84E+01	4.49E+01	2.73E+01	2.50E+01	7.04E-01	6.44E-01
0.200	23.65	5.14E+00	4.05E+00	2.17E+02	1.71E+02	5.41E+01	4.98E+01	3.10E+01	2.81E+01	7.33E-01	6.65E-01
0.300	142.81	1.00E+01	8.44E+00	7.00E+01	5.91E+01	3.55E+01	3.33E+01	1.77E+01	1.63E+01	2.53E+00	2.32E+00
0.300	114.08	5.33E+00	4.59E+00	4.67E+01	4.02E+01	3.08E+01	2.91E+01	1.50E+01	1.39E+01	1.71E+00	1.58E+00
0.300	94.97	3.84E+00	3.33E+00	4.04E+01	3.50E+01	2.93E+01	2.78E+01	1.42E+01	1.32E+01	1.35E+00	1.25E+00
0.300	81.34	3.17E+00	2.75E+00	3.90E+01	3.39E+01	2.90E+01	2.75E+01	1.42E+01	1.32E+01	1.15E+00	1.07E+00
0.300	71.14	2.82E+00	2.45E+00	3.97E+01	3.45E+01	2.93E+01	2.78E+01	1.45E+01	1.35E+01	1.03E+00	9.57E-01
0.300	63.21	2.64E+00	2.30E+00	4.18E+01	3.63E+01	2.99E+01	2.83E+01	1.49E+01	1.39E+01	9.43E-01	8.79E-01
0.300	56.87	2.55E+00	2.21E+00	4.48E+01	3.89E+01	3.07E+01	2.91E+01	1.55E+01	1.45E+01	8.82E-01	8.23E-01
0.300	51.68	2.51E+00	2.17E+00	4.86E+01	4.21E+01	3.16E+01	3.00E+01	1.62E+01	1.51E+01	8.36E-01	7.80E-01
0.300	47.37	2.53E+00	2.18E+00	5.34E+01	4.61E+01	3.28E+01	3.10E+01	1.70E+01	1.58E+01	8.03E-01	7.48E-01
0.300	43.71	2.59E+00	2.23E+00	5.93E+01	5.09E+01	3.40E+01	3.22E+01	1.78E+01	1.66E+01	7.78E-01	7.25E-01
0.300	40.59	2.69E+00	2.30E+00	6.62E+01	5.65E+01	3.54E+01	3.35E+01	1.87E+01	1.74E+01	7.60E-01	7.07E-01
0.300	35.50	2.99E+00	2.53E+00	8.42E+01	7.11E+01	3.86E+01	3.64E+01	2.09E+01	1.93E+01	7.41E-01	6.87E-01
0.300	31.55	3.48E+00	2.90E+00	1.10E+02	9.18E+01	4.26E+01	3.98E+01	2.35E+01	2.16E+01	7.40E-01	6.83E-01
0.300	28.39	4.26E+00	3.46E+00	1.50E+02	1.22E+02	4.75E+01	4.41E+01	2.67E+01	2.45E+01	7.57E-01	6.94E-01
0.300	25.81	5.49E+00	4.34E+00	2.13E+02	1.68E+02	5.38E+01	4.95E+01	3.07E+01	2.79E+01	7.93E-01	7.21E-01
0.300	23.65	7.64E+00	5.78E+00	3.23E+02	2.44E+02	6.22E+01	5.64E+01	3.63E+01	3.25E+01	8.57E-01	7.68E-01
0.400	142.81	9.21E+00	7.82E+00	6.45E+01	5.47E+01	3.45E+01	3.24E+01	1.71E+01	1.57E+01	2.44E+00	2.25E+00
0.400	114.08	5.03E+00	4.35E+00	4.41E+01	3.81E+01	3.02E+01	2.86E+01	1.46E+01	1.35E+01	1.67E+00	1.55E+00
0.400	94.97	3.70E+00	3.21E+00	3.89E+01	3.38E+01	2.89E+01	2.74E+01	1.41E+01	1.30E+01	1.34E+00	1.24E+00
0.400	81.34	3.11E+00	2.71E+00	3.82E+01	3.34E+01	2.88E+01	2.74E+01	1.41E+01	1.31E+01	1.15E+00	1.07E+00
0.400	71.14	2.83E+00	2.46E+00	3.97E+01	3.46E+01	2.93E+01	2.78E+01	1.45E+01	1.35E+01	1.03E+00	9.62E-01
0.400	63.21	2.69E+00	2.34E+00	4.26E+01	3.71E+01	3.01E+01	2.86E+01	1.51E+01	1.41E+01	9.56E-01	8.92E-01
0.400	56.87	2.65E+00	2.30E+00	4.67E+01	4.05E+01	3.12E+01	2.96E+01	1.59E+01	1.48E+01	9.02E-01	8.41E-01
0.400	51.68	2.69E+00	2.32E+00	5.20E+01	4.49E+01	3.24E+01	3.07E+01	1.67E+01	1.56E+01	8.65E-01	8.06E-01
0.400	47.37	2.77E+00	2.38E+00	5.85E+01	5.03E+01	3.39E+01	3.20E+01	1.77E+01	1.65E+01	8.38E-01	7.81E-01
0.400	43.71	2.90E+00	2.48E+00	6.64E+01	5.68E+01	3.55E+01	3.35E+01	1.88E+01	1.75E+01	8.21E-01	7.64E-01
0.400	40.59	3.09E+00	2.63E+00	7.61E+01	6.47E+01	3.73E+01	3.52E+01	2.00E+01	1.86E+01	8.11E-01	7.54E-01
0.400	35.50	3.65E+00	3.05E+00	1.03E+02	8.60E+01	4.15E+01	3.90E+01	2.28E+01	2.11E+01	8.09E-01	7.48E-01
0.400	31.55	4.58E+00	3.74E+00	1.45E+02	1.19E+02	4.70E+01	4.37E+01	2.63E+01	2.42E+01	8.30E-01	7.63E-01
0.400	28.39	5.99E+00	4.75E+00	2.11E+02	1.67E+02	5.36E+01	4.94E+01	3.06E+01	2.79E+01	8.70E-01	7.91E-01
0.400	25.81	8.78E+00	6.62E+00	3.40E+02	2.56E+02	6.33E+01	5.74E+01	3.70E+01	3.31E+01	9.55E-01	8.54E-01
0.400	23.65	1.48E+01	1.02E+01	6.27E+02	4.33E+02	7.83E+01	6.89E+01	4.68E+01	4.06E+01	1.11E+00	9.61E-01
0.600	142.81	8.27E+00	7.07E+00	5.79E+01	4.95E+01	3.32E+01	3.13E+01	1.63E+01	1.51E+01	2.33E+00	2.15E+00
0.600	114.08	4.75E+00	4.12E+00	4.16E+01	3.61E+01	2.96E+01	2.80E+01	1.43E+01	1.33E+01	1.64E+00	1.52E+00
0.600	94.97	3.64E+00	3.17E+00	3.84E+01	3.34E+01	2.88E+01	2.74E+01	1.41E+01	1.31E+01	1.33E+00	1.24E+00
0.600	81.34	3.20E+00	2.79E+00	3.93E+01	3.43E+01	2.92E+01	2.77E+01	1.44E+01	1.34E+01	1.17E+00	1.09E+00
0.600	71.14	3.04E+00	2.65E+00	4.27E+01	3.72E+01	3.01E+01	2.86E+01	1.51E+01	1.41E+01	1.08E+00	1.00E+00
0.600	63.21	3.04E+00	2.64E+00	4.81E+01	4.17E+01	3.15E+01	2.99E+01	1.61E+01	1.50E+01	1.02E+00	9.49E-01
0.600	56.87	3.15E+00	2.72E+00	5.55E+01	4.79E+01	3.32E+01	3.15E+01	1.73E+01	1.61E+01	9.83E-01	9.16E-01
0.600	51.68	3.37E+00	2.89E+00	6.53E+01	5.59E+01	3.53E+01	3.33E+01	1.87E+01	1.74E+01	9.64E-01	8.97E-01
0.600	47.37	3.70E+00	3.14E+00	7.81E+01	6.63E+01	3.76E+01	3.55E+01	2.02E+01	1.88E+01	9.57E-01	8.89E-01
0.600	43.71	4.15E+00	3.49E+00	9.50E+01	8.00E+01	4.04E+01	3.80E+01	2.20E+01	2.04E+01	9.63E-01	8.92E-01
0.600	40.59	4.78E+00	3.96E+00	1.18E+02	9.77E+01	4.36E+01	4.08E+01	2.41E+01	2.23E+01	9.80E-01	9.04E-01
0.600	35.50	6.85E+00	5.48E+00	1.93E+02	1.54E+02	5.19E+01	4.80E+01	2.96E+01	2.70E+01	1.05E+00	9.58E-01
0.600	31.55	1.13E+01	8.51E+00	3.60E+02	2.70E+02	6.46E+01	5.84E+01	3.79E+01	3.38E+01	1.19E+00	1.07E+00
0.600	28.39	2.44E+01	1.60E+01	8.59E+02	5.63E+02	8.74E+01	7.55E+01	5.27E+01	4.49E+01	1.50E+00	1.28E+00
0.600	25.81	1.10E+02	4.57E+01	4.27E+03	1.77E+03	1.51E+02	1.12E+02	9.43E+01	6.87E+01	2.43E+00	1.77E+00
0.600	23.65		2.27E+03		9.61E+04		4.32E+02		2.78E+02		6.57E+00

5.00 % ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DENSITY(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	190.13	7.82E+00	6.68E+00	4.11E+01	3.51E+01	2.91E+01	2.74E+01	1.35E+01	1.23E+01	2.56E+00	2.34E+00
0.	158.28	5.39E+00	4.64E+00	3.41E+01	2.93E+01	2.72E+01	2.57E+01	1.25E+01	1.15E+01	1.98E+00	1.82E+00
0.	135.57	4.21E+00	3.65E+00	3.10E+01	2.69E+01	2.64E+01	2.50E+01	1.21E+01	1.12E+01	1.64E+00	1.51E+00
0.	118.56	3.52E+00	3.05E+00	2.97E+01	2.57E+01	2.60E+01	2.46E+01	1.20E+01	1.11E+01	1.42E+00	1.31E+00
0.	105.35	3.07E+00	2.67E+00	2.91E+01	2.53E+01	2.59E+01	2.46E+01	1.20E+01	1.11E+01	1.26E+00	1.17E+00
0.	94.78	2.76E+00	2.40E+00	2.91E+01	2.53E+01	2.59E+01	2.46E+01	1.21E+01	1.12E+01	1.15E+00	1.06E+00
0.	78.94	2.36E+00	2.05E+00	2.98E+01	2.50E+01	2.62E+01	2.49E+01	1.24E+01	1.15E+01	9.80E-01	9.10E-01
0.	67.64	2.12E+00	1.85E+00	3.13E+01	2.73E+01	2.68E+01	2.54E+01	1.28E+01	1.19E+01	8.68E-01	8.06E-01

5.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	MASS OF U235(KG) SAFE	VOLUME(LITERS) CRITICAL	VOLUME(LITERS) SAFE	DIA. OF CYL.(CM) CRITICAL	DIA. OF CYL.(CM) SAFE	WIDTH OF SLAB(CM) CRITICAL	WIDTH OF SLAB(CM) SAFE	G U235 PER SQ CM CRITICAL	G U235 PER SQ CM SAFE
0.	59.17	1.97E+00	1.72E+00	3.33E+01	2.90E+01	2.74E+01	2.60E+01	1.33E+01	1.24E+01	7.88E-01	7.33E-01
0.	52.59	1.89E+00	1.64E+00	3.59E+01	3.12E+01	2.82E+01	2.68E+01	1.39E+01	1.29E+01	7.30E-01	6.79E-01
0.	47.32	1.85E+00	1.60E+00	3.91E+01	3.39E+01	2.91E+01	2.76E+01	1.45E+01	1.35E+01	6.86E-01	6.38E-01
0.	43.01	1.85E+00	1.59E+00	4.30E+01	3.71E+01	3.02E+01	2.86E+01	1.52E+01	1.41E+01	6.54E-01	6.08E-01
0.	36.39	1.94E+00	1.66E+00	5.33E+01	4.56E+01	3.27E+01	3.09E+01	1.69E+01	1.57E+01	6.14E-01	5.70E-01
0.	31.53	2.14E+00	1.82E+00	6.80E+01	5.77E+01	3.57E+01	3.36E+01	1.89E+01	1.75E+01	5.95E-01	5.51E-01
0.	27.82	2.46E+00	2.06E+00	8.85E+01	7.40E+01	3.93E+01	3.68E+01	2.12E+01	1.96E+01	5.90E-01	5.45E-01
0.	24.89	2.92E+00	2.40E+00	1.17E+02	9.63E+01	4.34E+01	4.05E+01	2.39E+01	2.20E+01	5.96E-01	5.47E-01
0.050	190.13	6.93E+00	5.97E+00	3.65E+01	3.14E+01	2.79E+01	2.63E+01	1.28E+01	1.17E+01	2.43E+00	2.23E+00
0.050	158.28	4.81E+00	4.17E+00	3.04E+01	2.63E+01	2.61E+01	2.48E+01	1.19E+01	1.10E+01	1.88E+00	1.73E+00
0.050	135.57	3.75E+00	3.27E+00	2.76E+01	2.41E+01	2.53E+01	2.40E+01	1.15E+01	1.07E+01	1.56E+00	1.44E+00
0.050	118.56	3.12E+00	2.72E+00	2.63E+01	2.30E+01	2.49E+01	2.37E+01	1.14E+01	1.05E+01	1.35E+00	1.25E+00
0.050	105.35	2.71E+00	2.37E+00	2.57E+01	2.25E+01	2.48E+01	2.35E+01	1.14E+01	1.05E+01	1.20E+00	1.11E+00
0.050	94.78	2.42E+00	2.12E+00	2.55E+01	2.24E+01	2.48E+01	2.35E+01	1.14E+01	1.06E+01	1.08E+00	1.01E+00
0.050	78.94	2.06E+00	1.81E+00	2.61E+01	2.29E+01	2.50E+01	2.38E+01	1.17E+01	1.09E+01	9.25E-01	8.60E-01
0.050	67.64	1.85E+00	1.62E+00	2.73E+01	2.40E+01	2.55E+01	2.43E+01	1.21E+01	1.13E+01	8.19E-01	7.62E-01
0.050	59.17	1.72E+00	1.50E+00	2.90E+01	2.54E+01	2.61E+01	2.48E+01	1.26E+01	1.17E+01	7.44E-01	6.93E-01
0.050	52.59	1.64E+00	1.44E+00	3.12E+01	2.73E+01	2.69E+01	2.55E+01	1.31E+01	1.22E+01	6.88E-01	6.41E-01
0.050	47.32	1.61E+00	1.40E+00	3.40E+01	2.96E+01	2.77E+01	2.64E+01	1.37E+01	1.28E+01	6.47E-01	6.03E-01
0.050	43.01	1.60E+00	1.39E+00	3.72E+01	3.24E+01	2.87E+01	2.72E+01	1.43E+01	1.34E+01	6.16E-01	5.75E-01
0.050	36.39	1.67E+00	1.44E+00	4.59E+01	3.96E+01	3.10E+01	2.94E+01	1.59E+01	1.48E+01	5.77E-01	5.38E-01
0.050	31.53	1.84E+00	1.57E+00	5.82E+01	4.99E+01	3.38E+01	3.20E+01	1.77E+01	1.65E+01	5.59E-01	5.19E-01
0.050	27.82	2.09E+00	1.77E+00	7.52E+01	6.36E+01	3.71E+01	3.49E+01	1.99E+01	1.84E+01	5.53E-01	5.12E-01
0.050	24.89	2.45E+00	2.05E+00	9.86E+01	8.22E+01	4.09E+01	3.83E+01	2.24E+01	2.06E+01	5.56E-01	5.14E-01
0.100	190.13	6.44E+00	5.56E+00	3.39E+01	2.93E+01	2.71E+01	2.56E+01	1.24E+01	1.14E+01	2.35E+00	2.16E+00
0.100	158.28	4.44E+00	3.87E+00	2.81E+01	2.44E+01	2.54E+01	2.41E+01	1.15E+01	1.06E+01	1.81E+00	1.67E+00
0.100	135.57	3.46E+00	3.03E+00	2.55E+01	2.23E+01	2.46E+01	2.34E+01	1.11E+01	1.03E+01	1.51E+00	1.39E+00
0.100	118.56	2.89E+00	2.53E+00	2.44E+01	2.14E+01	2.42E+01	2.30E+01	1.10E+01	1.02E+01	1.30E+00	1.21E+00
0.100	105.35	2.52E+00	2.21E+00	2.39E+01	2.10E+01	2.41E+01	2.29E+01	1.10E+01	1.02E+01	1.16E+00	1.08E+00
0.100	94.78	2.26E+00	1.99E+00	2.38E+01	2.10E+01	2.41E+01	2.30E+01	1.11E+01	1.03E+01	1.05E+00	9.78E-01
0.100	78.94	1.94E+00	1.70E+00	2.45E+01	2.16E+01	2.45E+01	2.33E+01	1.14E+01	1.06E+01	9.00E-01	8.38E-01
0.100	67.64	1.75E+00	1.54E+00	2.59E+01	2.28E+01	2.50E+01	2.38E+01	1.18E+01	1.10E+01	8.01E-01	7.46E-01
0.100	59.17	1.64E+00	1.44E+00	2.77E+01	2.43E+01	2.57E+01	2.45E+01	1.23E+01	1.15E+01	7.29E-01	6.80E-01
0.100	52.59	1.58E+00	1.39E+00	3.00E+01	2.63E+01	2.65E+01	2.52E+01	1.29E+01	1.20E+01	6.77E-01	6.33E-01
0.100	47.32	1.56E+00	1.36E+00	3.29E+01	2.88E+01	2.74E+01	2.61E+01	1.35E+01	1.26E+01	6.39E-01	5.98E-01
0.100	43.01	1.57E+00	1.37E+00	3.64E+01	3.18E+01	2.85E+01	2.71E+01	1.42E+01	1.33E+01	6.12E-01	5.71E-01
0.100	36.39	1.67E+00	1.44E+00	4.58E+01	3.96E+01	3.10E+01	2.94E+01	1.59E+01	1.48E+01	5.79E-01	5.39E-01
0.100	31.53	1.87E+00	1.60E+00	5.93E+01	5.07E+01	3.41E+01	3.22E+01	1.79E+01	1.67E+01	5.64E-01	5.26E-01
0.100	27.82	2.18E+00	1.84E+00	7.83E+01	6.62E+01	3.77E+01	3.54E+01	2.03E+01	1.88E+01	5.64E-01	5.23E-01
0.100	24.89	2.63E+00	2.19E+00	1.06E+02	8.78E+01	4.19E+01	3.92E+01	2.30E+01	2.13E+01	5.73E-01	5.29E-01
0.200	190.13	5.80E+00	5.04E+00	3.05E+01	2.65E+01	2.61E+01	2.47E+01	1.18E+01	1.09E+01	2.24E+00	2.06E+00
0.200	158.28	4.03E+00	3.53E+00	2.55E+01	2.23E+01	2.45E+01	2.33E+01	1.10E+01	1.01E+01	1.74E+00	1.61E+00
0.200	135.57	3.18E+00	2.79E+00	2.34E+01	2.06E+01	2.39E+01	2.27E+01	1.07E+01	9.92E+00	1.45E+00	1.34E+00
0.200	118.56	2.68E+00	2.36E+00	2.26E+01	1.99E+01	2.36E+01	2.25E+01	1.06E+01	9.88E+00	1.26E+00	1.17E+00
0.200	105.35	2.36E+00	2.08E+00	2.24E+01	1.98E+01	2.36E+01	2.25E+01	1.07E+01	9.98E+00	1.13E+00	1.05E+00
0.200	94.78	2.15E+00	1.90E+00	2.27E+01	2.00E+01	2.38E+01	2.26E+01	1.09E+01	1.01E+01	1.03E+00	9.62E-01
0.200	78.94	1.88E+00	1.66E+00	2.39E+01	2.11E+01	2.43E+01	2.31E+01	1.13E+01	1.06E+01	8.95E-01	8.34E-01
0.200	67.64	1.75E+00	1.54E+00	2.58E+01	2.28E+01	2.50E+01	2.39E+01	1.19E+01	1.11E+01	8.05E-01	7.51E-01
0.200	59.17	1.68E+00	1.48E+00	2.84E+01	2.50E+01	2.60E+01	2.47E+01	1.26E+01	1.17E+01	7.43E-01	6.94E-01
0.200	52.59	1.66E+00	1.46E+00	3.16E+01	2.77E+01	2.71E+01	2.57E+01	1.33E+01	1.24E+01	6.99E-01	6.53E-01
0.200	47.32	1.69E+00	1.47E+00	3.56E+01	3.11E+01	2.83E+01	2.69E+01	1.41E+01	1.32E+01	6.68E-01	6.24E-01
0.200	43.01	1.74E+00	1.52E+00	4.05E+01	3.53E+01	2.97E+01	2.82E+01	1.50E+01	1.40E+01	6.47E-01	6.04E-01
0.200	36.39	1.97E+00	1.70E+00	5.42E+01	4.66E+01	3.30E+01	3.12E+01	1.72E+01	1.60E+01	6.27E-01	5.84E-01
0.200	31.53	2.37E+00	2.01E+00	7.52E+01	6.38E+01	3.71E+01	3.50E+01	1.99E+01	1.85E+01	6.29E-01	5.84E-01
0.200	27.82	3.01E+00	2.50E+00	1.08E+02	8.99E+01	4.23E+01	3.96E+01	2.33E+01	2.15E+01	6.48E-01	5.99E-01
0.200	24.89	4.04E+00	3.26E+00	1.62E+02	1.31E+02	4.88E+01	4.53E+01	2.76E+01	2.52E+01	6.86E-01	6.28E-01
0.300	190.13	5.42E+00	4.72E+00	2.85E+01	2.48E+01	2.55E+01	2.42E+01	1.14E+01	1.05E+01	2.17E+00	2.00E+00
0.300	158.28	3.82E+00	3.35E+00	2.42E+01	2.12E+01	2.41E+01	2.29E+01	1.07E+01	9.93E+00	1.70E+00	1.57E+00
0.300	135.57	3.05E+00	2.69E+00	2.25E+01	1.98E+01	2.36E+01	2.24E+01	1.06E+01	9.79E+00	1.43E+00	1.33E+00
0.300	118.56	2.62E+00	2.31E+00	2.21E+01	1.95E+01	2.34E+01	2.23E+01	1.06E+01	9.85E+00	1.26E+00	1.17E+00
0.300	105.35	2.35E+00	2.07E+00	2.23E+01	1.97E+01	2.36E+01	2.25E+01	1.08E+01	1.00E+01	1.14E+00	1.06E+00
0.300	94.78	2.17E+00	1.92E+00	2.29E+01	2.02E+01	2.39E+01	2.28E+01	1.10E+01	1.03E+01	1.05E+00	9.74E-01
0.300	78.94	1.97E+00	1.74E+00	2.50E+01	2.20E+01	2.47E+01	2.36E+01	1.17E+01	1.09E+01	9.21E-01	8.60E-01
0.300	67.64	1.89E+00	1.66E+00	2.80E+01	2.46E+01	2.58E+01	2.46E+01	1.24E+01	1.16E+01	8.42E-01	7.86E-01
0.300	59.17	1.88E+00	1.65E+00	3.18E+01	2.79E+01	2.71E+01	2.58E+01	1.33E+01	1.25E+01	7.89E-01	7.37E-01
0.300	52.59	1.93E+00	1.69E+00	3.67E+01	3.21E+01	2.86E+01	2.72E+01	1.43E+01	1.34E+01	7.54E-01	7.04E-01
0.300	47.32	2.03E+00	1.77E+00	4.30E+01	3.74E+01	3.03E+01	2.88E+01	1.55E+01	1.44E+01	7.32E-01	6.83E-01
0.300	43.01	2.19E+00	1.89E+00	5.10E+01	4.40E+01	3.23E+01	3.06E+01	1.67E+01	1.56E+01	7.20E-01	6.72E-01
0.300	36.39	2.66E+00	2.27E+00	7.32E+01	6.23E+01	3.68E+01	3.47E+01	1.97E+01	1.83E+01	7.18E-01	6.67E-01
0.300	31.53	3.60E+00	2.98E+00	1.14E+02	9.45E+01	4.31E+01	4.03E+01	2.39E+01	2.20E+01	7.52E-01	6.93E-01
0.300	27.82	5.33E+00	4.25E+00	1.92E+02	1.53E+02	5.18E+01	4.78E+01	2.95E+01	2.69E+01	8.21E-01	7.48E-01
0.300	24.89	8.98E+00	6.71E+00	3.61E+02	2.69E+02	6.47E+01	5.84E+01	3.79E+01	3.38E+01	9.43E-01	8.40E-01
0.400	190.13	5.19E+00	4.53E+00	2.73E+01	2.38E+01	2.51E+01	2.38E+01	1.12E+01	1.04E+01	2.14E+00	1.97E+00
0.400	158.28	3.72E+00	3.27E+00	2.35E+01	2.06E+01	2.39E+01	2.27E+01	1.06E+01	9.87E+00	1.69E+00	1.56E+00
0.400	135.57	3.03E+00	2.67E+00	2.23E+01	1.97E+01	2.35E+01	2.24E+01	1.06E+01	9.81E+00	1.43E+00	1.33E+00
0.400	118.56	2.64E+00	2.33E+00	2.23E+01	1.96E+01	2.35E+01	2.24E+01	1.07E+01	9.97E+00	1.27E+00	1.18E+00
0.400	105.35	2.41E+00	2.13E+00	2.29E+01	2.02E+01	2.38E+01	2.27E+01	1.10E+01	1.02E+01	1.16E+00	1.08E+00
0.400	94.78	2.27E+00	2.00E+00	2.39E+01	2.11E+01	2.43E+01	2.32E+01	1.13E+01	1.06E+01	1.08E+00	1.00E+00
0.400	78.94	2.14E+00	1.89E+00	2.71E+01	2.39E+01	2.55E+01	2.43E+01	1.22E+01	1.14E+01	9.66E-01	9.02E-01
0.400	67.64	2.14E+00	1.88E+00	3.16E+01	2.77E+01	2.70E+01	2.57E+01	1.33E+01	1.24E+01	8.98E-01	8.41E-01
0.400	59.17	2.22E+00	1.94E+00	3.75E+01	3.28E+01	2.88E+01	2.74E+01	1.45E+01	1.36E+01	8.57E-01	8.02E-01
0.400	52.59	2.39E+00	2.07E+00	4.54E+01	3.94E+01	3.09E+01	2.94E+01	1.59E+01	1.48E+01	8.35E-01	7.80E-01
0.400	47.32	2.65E+00	2.28E+00	5.59E+01	4.82E+01	3.34E+01	3.16E+01	1.75E+01	1.63E+01	8.28E-01	7.71E-01
0.400	43.01	3.02E+00	2.57E+00	7.02E+01	5.99E+01	3.63E+01	3.42E+01	1.94E+01	1.80E+01	8.33E-01	7.75E-01
0.400	36.39	4.33E+00	3.59E+00	1.19E+02	9.85E+01	4.38E+01	4.09E+01	2.43E+01	2.24E+01	8.84E-01	8.15E-01
0.400	31.53	7.27E+00	5.71E+00	2.31E+02	1.81E+02	5.53E+01	5.08E+01	3.18E+01	2.88E+01	1.00E+00	9.08E-01
0.400	27.82	1.56E+01	1.10E+01	5.61E+02	3.95E+02	7.54E+01	6.67E+01	4.49E+01	3.92E+01	1.25E+00	1.09E+00
0.400	24.89	4.93E+01	2.64E+01	1.98E+03	1.06E+03	1.16E+02	9.39E+01	7.16E+01	5.69E+01	1.78E+00	1.42E+00
0.600	190.13	4.97E+00	4.35E+00	2.62E+01	2.29E+01	2.48E+01	2.35E+01	1.11E+01	1.03E+01	2.11E+00	1.95E+00

5.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MASS OF U235(KG) CRITICAL	SAFE	VOLUME(LITERS) CRITICAL	SAFE	DIA. OF CYL.(CM) CRITICAL	SAFE	WIDTH OF SLAB(CM) CRITICAL	SAFE	G U235 PER SQ CM CRITICAL	SAFE
0.600	158.28	3.71E+00	3.27E+00	2.34E+01	2.06E+01	2.39E+01	2.28E+01	1.08E+01	9.97E+00	1.70E+00	1.58E+00
0.600	135.57	3.14E+00	2.77E+00	2.32E+01	2.05E+01	2.39E+01	2.28E+01	1.09E+01	1.01E+01	1.48E+00	1.37E+00
0.600	118.56	2.86E+00	2.52E+00	2.41E+01	2.13E+01	2.43E+01	2.32E+01	1.13E+01	1.05E+01	1.34E+00	1.25E+00
0.600	105.35	2.72E+00	2.40E+00	2.58E+01	2.28E+01	2.50E+01	2.38E+01	1.18E+01	1.10E+01	1.25E+00	1.16E+00
0.600	94.78	2.68E+00	2.36E+00	2.83E+01	2.49E+01	2.59E+01	2.47E+01	1.25E+01	1.17E+01	1.18E+00	1.10E+00
0.600	78.94	2.79E+00	2.44E+00	3.53E+01	3.09E+01	2.82E+01	2.68E+01	1.40E+01	1.31E+01	1.11E+00	1.04E+00
0.600	67.64	3.10E+00	2.69E+00	4.58E+01	3.98E+01	3.10E+01	2.95E+01	1.59E+01	1.49E+01	1.08E+00	1.01E+00
0.600	59.17	3.63E+00	3.12E+00	6.14E+01	5.28E+01	3.45E+01	3.27E+01	1.83E+01	1.70E+01	1.08E+00	1.01E+00
0.600	52.59	4.50E+00	3.80E+00	8.56E+01	7.23E+01	3.89E+01	3.66E+01	2.11E+01	1.96E+01	1.11E+00	1.03E+00
0.600	47.32	5.92E+00	4.88E+00	1.25E+02	1.03E+02	4.46E+01	4.16E+01	2.48E+01	2.29E+01	1.17E+00	1.08E+00
0.600	43.01	8.37E+00	6.68E+00	1.95E+02	1.55E+02	5.21E+01	4.81E+01	2.97E+01	2.71E+01	1.28E+00	1.17E+00
0.600	36.39	2.50E+01	1.70E+01	6.86E+02	4.68E+02	8.08E+01	7.08E+01	4.85E+01	4.19E+01	1.76E+00	1.52E+00
0.600	31.53	2.09E+03	1.65E+02	6.63E+04	5.24E+03	3.81E+02	1.62E+02	2.45E+02	1.01E+02	7.72E+00	3.20E+00

APPENDIX C

CRITICAL AND SAFE BUCKLINGS, EXTRAPOLATION DISTANCES, AND MIGRATION AREAS FOR LATTICES OF URANIUM METAL - WATER SYSTEMS

0.71% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.600	53.68	28.87		0.000397		6.57		6.59		6.63
0.600	48.80	28.93		0.000607		6.47		6.49		6.54
0.600	44.73	29.03		0.000630		6.40		6.43		6.47
0.600	41.29	29.16		0.000520		6.37		6.38		6.42
0.600	38.34	29.32		0.000319		6.35		6.36		6.39
0.600	35.78	29.49		0.000061		6.35		6.35		6.36
0.700	59.64	28.98		0.000117		6.66		6.68		6.70
0.700	53.68	28.96		0.000566		6.49		6.52		6.57
0.700	48.80	29.01		0.000713		6.40		6.43		6.48
0.700	44.73	29.11		0.000672		6.34		6.37		6.41
0.700	41.29	29.24		0.000499		6.31		6.33		6.37
0.700	38.34	29.40		0.000236		6.30		6.31		6.33
0.800	59.64	29.06		0.000285		6.58		6.60		6.64
0.800	53.68	29.03		0.000670		6.43		6.46		6.51
0.800	48.80	29.08	0.000025	0.000751	6.36	6.34	6.36	6.37	6.37	6.42
0.800	44.73	29.18		0.000643		6.29		6.31		6.36
0.800	41.29	29.32		0.000404		6.26		6.28		6.31
0.800	38.34	29.49		0.000078		6.26		6.27		6.28
0.900	59.64	29.13		0.000402		6.51		6.53		6.58
0.900	53.68	29.10		0.000720		6.37		6.40		6.45
0.900	48.80	29.15	0.000008	0.000732	6.31	6.29	6.30	6.32	6.32	6.37
0.900	44.73	29.26		0.000553		6.24		6.27		6.31
0.900	41.29	29.40		0.000246		6.23		6.24		6.26
1.000	59.64	29.20		0.000475		6.45		6.48		6.53
1.000	53.68	29.17		0.000723		6.32		6.35		6.40
1.000	48.80	29.22		0.000661		6.24		6.27		6.32
1.000	44.73	29.33		0.000411		6.20		6.22		6.26
1.000	41.29	29.48		0.000034		6.20		6.20		6.22
1.100	59.64	29.26		0.000511		6.40		6.42		6.47
1.100	53.68	29.23		0.000684		6.27		6.30		6.35
1.100	48.80	29.28		0.000547		6.20		6.22		6.27
1.100	44.73	29.39		0.000223		6.17		6.18		6.21
1.200	59.64	29.32		0.000506		6.34		6.37		6.42
1.200	53.68	29.28		0.000600		6.23		6.25		6.30
1.200	48.80	29.34		0.000394		6.16		6.18		6.22

1.00% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.300	84.00	28.24	0.001565	0.002364	7.01	7.03	7.06	7.10	7.15	7.22
0.300	75.60	28.20	0.002423	0.003235	6.81	6.84	6.87	6.91	6.97	7.03
0.300	68.73	28.22	0.002968	0.003784	6.67	6.71	6.73	6.77	6.84	6.89
0.300	63.00	28.27	0.003304	0.004121	6.58	6.61	6.64	6.68	6.74	6.79
0.300	58.15	28.36	0.003493	0.004308	6.52	6.55	6.57	6.61	6.66	6.71
0.300	54.00	28.45	0.003572	0.004382	6.47	6.50	6.52	6.56	6.61	6.65
0.300	50.40	28.56	0.003574	0.004380	6.43	6.46	6.48	6.51	6.56	6.60
0.300	47.25	28.68	0.003517	0.004316	6.40	6.43	6.45	6.48	6.52	6.56
0.300	44.47	28.81	0.003405	0.004197	6.38	6.41	6.42	6.46	6.49	6.53
0.300	42.00	28.93	0.003262	0.004047	6.36	6.39	6.40	6.44	6.47	6.51
0.300	39.79	29.06	0.003086	0.003862	6.35	6.38	6.39	6.42	6.45	6.49
0.300	37.80	29.20	0.002886	0.003654	6.34	6.37	6.38	6.41	6.43	6.47
0.300	34.36	29.47	0.002443	0.003194	6.33	6.36	6.36	6.39	6.41	6.44
0.300	31.50	29.75	0.001953	0.002687	6.33	6.36	6.36	6.38	6.40	6.43
0.400	84.00	28.39	0.002116	0.002922	6.87	6.90	6.94	6.98	7.05	7.11
0.400	75.60	28.34	0.002936	0.003753	6.69	6.72	6.75	6.80	6.87	6.93
0.400	68.73	28.35	0.003434	0.004255	6.57	6.60	6.63	6.67	6.74	6.79
0.400	63.00	28.40	0.003721	0.004542	6.48	6.51	6.54	6.58	6.65	6.70
0.400	58.15	28.48	0.003853	0.004670	6.42	6.45	6.48	6.52	6.57	6.62
0.400	54.00	28.58	0.003873	0.004685	6.38	6.41	6.43	6.47	6.52	6.57
0.400	50.40	28.69	0.003814	0.004620	6.34	6.37	6.39	6.43	6.48	6.52
0.400	47.25	28.81	0.003696	0.004494	6.32	6.35	6.37	6.40	6.44	6.48
0.400	44.47	28.93	0.003524	0.004314	6.30	6.33	6.34	6.38	6.41	6.45
0.400	42.00	29.06	0.003322	0.004103	6.29	6.31	6.33	6.36	6.39	6.43
0.400	39.79	29.20	0.003088	0.003860	6.28	6.30	6.32	6.35	6.38	6.41
0.400	37.80	29.34	0.002832	0.003595	6.27	6.30	6.31	6.34	6.36	6.40
0.400	34.36	29.63	0.002284	0.003027	6.27	6.29	6.30	6.33	6.34	6.38
0.400	31.50	29.92	0.001700	0.002423	6.28	6.30	6.30	6.33	6.34	6.37
0.500	84.00	28.51	0.002538	0.003348	6.77	6.80	6.84	6.88	6.95	7.02
0.500	75.60	28.46	0.003309	0.004130	6.60	6.63	6.66	6.71	6.78	6.84
0.500	68.73	28.47	0.003752	0.004576	6.48	6.51	6.55	6.59	6.66	6.71
0.500	63.00	28.52	0.003980	0.004802	6.40	6.43	6.46	6.50	6.57	6.62
0.500	58.15	28.59	0.004048	0.004866	6.34	6.37	6.40	6.44	6.50	6.55
0.500	54.00	28.69	0.004004	0.004815	6.30	6.33	6.36	6.39	6.45	6.49

1.00% ^{235}U (continued)

DIAMETER OF RODS(IN)	AVE U235 DENS(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.500	50.40	28.80	0.003331	0.004684	6.27	6.30	6.32	6.36	6.41	6.45
0.500	47.25	28.92	0.003197	0.004493	6.25	6.28	6.30	6.33	6.37	6.42
0.500	44.47	29.05	0.003065	0.004249	6.24	6.26	6.28	6.31	6.35	6.39
0.500	42.00	29.19	0.003203	0.003977	6.23	6.25	6.27	6.30	6.33	6.37
0.500	39.79	29.33	0.002810	0.003674	6.22	6.25	6.26	6.29	6.32	6.35
0.500	37.80	29.48	0.002598	0.003351	6.22	6.24	6.25	6.28	6.30	6.34
0.500	34.36	29.79	0.001965	0.002676	6.22	6.25	6.25	6.28	6.29	6.33
0.500	31.50	30.10	0.001264	0.001973	6.24	6.26	6.26	6.28	6.29	6.32
0.600	84.00	28.63	0.002859	0.003672	6.68	6.71	6.75	6.79	6.87	6.94
0.600	75.60	28.56	0.003575	0.004397	6.51	6.55	6.59	6.63	6.71	6.76
0.600	68.73	28.57	0.003955	0.004779	6.41	6.44	6.47	6.51	6.59	6.64
0.600	63.00	28.61	0.004116	0.004937	6.33	6.36	6.39	6.43	6.50	6.55
0.600	58.15	28.69	0.004117	0.004932	6.28	6.31	6.34	6.37	6.43	6.48
0.600	54.00	28.79	0.004003	0.004810	6.24	6.27	6.29	6.33	6.38	6.43
0.600	50.40	28.91	0.003812	0.004610	6.21	6.24	6.26	6.30	6.35	6.39
0.600	47.25	29.03	0.003563	0.004351	6.20	6.22	6.24	6.27	6.32	6.36
0.600	44.47	29.17	0.003265	0.004041	6.18	6.21	6.23	6.26	6.29	6.33
0.600	42.00	29.31	0.002940	0.003705	6.18	6.20	6.22	6.25	6.28	6.31
0.600	39.79	29.47	0.002588	0.003341	6.18	6.20	6.21	6.24	6.26	6.30
0.600	37.80	29.62	0.002218	0.002959	6.18	6.20	6.21	6.23	6.25	6.29
0.600	34.36	29.95	0.001460	0.002176	6.19	6.21	6.21	6.23	6.25	6.28
0.600	31.50	30.30	0.000684	0.001375	6.21	6.22	6.22	6.24	6.25	6.28
0.700	84.00	28.72	0.003102	0.003916	6.60	6.64	6.68	6.72	6.80	6.86
0.700	75.60	28.65	0.003756	0.004578	6.44	6.48	6.52	6.56	6.64	6.69
0.700	68.73	28.66	0.004067	0.004890	6.34	6.37	6.41	6.45	6.52	6.57
0.700	63.00	28.70	0.004156	0.004974	6.27	6.30	6.33	6.37	6.44	6.49
0.700	58.15	28.78	0.004084	0.004895	6.22	6.25	6.28	6.31	6.37	6.42
0.700	54.00	28.89	0.003897	0.004699	6.18	6.21	6.24	6.27	6.33	6.37
0.700	50.40	29.01	0.003635	0.004425	6.16	6.19	6.21	6.24	6.29	6.33
0.700	47.25	29.14	0.003317	0.004095	6.15	6.17	6.19	6.22	6.26	6.30
0.700	44.47	29.29	0.002952	0.003718	6.14	6.16	6.18	6.21	6.24	6.28
0.700	42.00	29.44	0.002563	0.003315	6.13	6.16	6.17	6.20	6.23	6.26
0.700	39.79	29.61	0.002151	0.002890	6.14	6.16	6.17	6.19	6.22	6.25
0.700	37.80	29.78	0.001723	0.002449	6.14	6.16	6.17	6.19	6.21	6.24
0.700	34.36	30.14	0.000860	0.001558	6.16	6.18	6.18	6.20	6.20	6.24
0.700	31.50	30.52		0.000665		6.20		6.22		6.24
0.800	84.00	28.81	0.003281	0.004095	6.53	6.56	6.61	6.65	6.74	6.80
0.800	75.60	28.74	0.003866	0.004687	6.38	6.41	6.45	6.49	6.57	6.63
0.800	68.73	28.74	0.004104	0.004923	6.28	6.31	6.35	6.39	6.46	6.51
0.800	63.00	28.79	0.004116	0.004930	6.21	6.24	6.27	6.31	6.38	6.43
0.800	58.15	28.87	0.003967	0.004772	6.16	6.19	6.22	6.26	6.32	6.36
0.800	54.00	28.98	0.003705	0.004498	6.13	6.16	6.19	6.22	6.27	6.31
0.800	50.40	29.11	0.003369	0.004149	6.11	6.14	6.16	6.19	6.24	6.28
0.800	47.25	29.25	0.002979	0.003747	6.10	6.13	6.14	6.17	6.21	6.25
0.800	44.47	29.41	0.002547	0.003300	6.10	6.12	6.13	6.16	6.19	6.23
0.800	42.00	29.58	0.002093	0.002832	6.10	6.12	6.13	6.16	6.18	6.22
0.800	39.79	29.75	0.001621	0.002345	6.10	6.12	6.13	6.16	6.17	6.21
0.800	37.80	29.94	0.001138	0.001847	6.11	6.13	6.13	6.16	6.17	6.20
0.800	34.36	30.34	0.000174	0.000853	6.15	6.16	6.15	6.17	6.17	6.20
0.900	84.00	28.89	0.003405	0.004218	6.47	6.50	6.54	6.59	6.67	6.73
0.900	75.60	28.81	0.003917	0.004736	6.32	6.35	6.39	6.43	6.52	6.57
0.900	68.73	28.81	0.004076	0.004892	6.22	6.25	6.29	6.33	6.40	6.46
0.900	63.00	28.86	0.004008	0.004816	6.16	6.19	6.22	6.26	6.32	6.37
0.900	58.15	28.95	0.003778	0.004576	6.12	6.14	6.17	6.21	6.26	6.31
0.900	54.00	29.07	0.003438	0.004222	6.09	6.11	6.14	6.17	6.22	6.26
0.900	50.40	29.21	0.003026	0.003797	6.07	6.10	6.12	6.15	6.19	6.23
0.900	47.25	29.36	0.002565	0.003320	6.06	6.09	6.10	6.13	6.16	6.20
0.900	44.47	29.53	0.002065	0.002804	6.06	6.08	6.09	6.12	6.15	6.19
0.900	42.00	29.72	0.001548	0.002271	6.07	6.09	6.09	6.12	6.14	6.17
0.900	39.79	29.91	0.001017	0.001724	6.08	6.09	6.10	6.12	6.13	6.17
0.900	37.80	30.12	0.000481	0.001171	6.10	6.11	6.11	6.13	6.13	6.16
0.900	34.36	30.56		0.000080		6.16		6.16		6.17
1.000	84.00	28.96	0.003477	0.004288	6.41	6.44	6.48	6.52	6.61	6.67
1.000	75.60	28.88	0.003908	0.004723	6.26	6.29	6.33	6.38	6.46	6.51
1.000	68.73	28.88	0.003982	0.004793	6.17	6.20	6.24	6.28	6.35	6.40
1.000	63.00	28.94	0.003841	0.004642	6.11	6.14	6.17	6.21	6.27	6.32
1.000	58.15	29.03	0.003528	0.004317	6.07	6.10	6.12	6.16	6.21	6.26
1.000	54.00	29.16	0.003108	0.003882	6.05	6.07	6.09	6.13	6.17	6.21
1.000	50.40	29.31	0.002620	0.003378	6.03	6.06	6.07	6.10	6.14	6.18
1.000	47.25	29.48	0.002087	0.002828	6.03	6.05	6.06	6.09	6.12	6.16
1.000	44.47	29.67	0.001520	0.002244	6.03	6.05	6.06	6.09	6.11	6.14
1.000	42.00	29.87	0.000943	0.001649	6.04	6.06	6.06	6.09	6.10	6.13
1.000	39.79	30.08	0.000356	0.001044	6.06	6.07	6.07	6.09	6.10	6.13
1.000	37.80	30.31		0.000439		6.10		6.11		6.13

1.40% ^{235}U

DIAMETER OF RODS(IN)	AVE U235 DENS(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.200	117.60	27.72	0.003937	0.004801	7.21	7.24	7.30	7.34	7.45	7.52
0.200	105.84	27.67	0.005016	0.005897	6.99	7.03	7.08	7.13	7.23	7.29
0.200	96.22	27.66	0.005763	0.006653	6.84	6.88	6.93	6.97	7.07	7.13
0.200	88.20	27.69	0.006282	0.007177	6.74	6.77	6.82	6.86	6.95	7.01
0.200	81.42	27.75	0.006652	0.007549	6.66	6.69	6.73	6.78	6.86	6.91
0.200	75.60	27.82	0.006904	0.007800	6.59	6.63	6.67	6.71	6.78	6.83

1.40% ^{235}U (continued)

DIAMETER OF RODS(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.200	70.56	27.90	0.007071	0.007966	6.54	6.57	6.61	6.65	6.72	6.76
0.200	66.15	27.99	0.007168	0.008060	6.50	6.53	6.57	6.60	6.67	6.71
0.200	62.26	28.09	0.007201	0.008090	6.47	6.50	6.53	6.57	6.62	6.67
0.200	58.80	28.17	0.007195	0.008080	6.44	6.47	6.50	6.53	6.59	6.63
0.200	55.71	28.27	0.007145	0.008025	6.42	6.45	6.47	6.51	6.56	6.60
0.200	52.92	28.37	0.007062	0.007936	6.40	6.43	6.45	6.48	6.53	6.57
0.200	48.11	28.57	0.006830	0.007693	6.37	6.40	6.42	6.45	6.48	6.52
0.200	44.10	28.77	0.006520	0.007371	6.35	6.37	6.39	6.42	6.45	6.49
0.200	40.71	28.97	0.006164	0.007002	6.33	6.36	6.37	6.40	6.43	6.46
0.200	37.80	29.18	0.005766	0.006590	6.32	6.35	6.36	6.39	6.41	6.44
0.300	117.60	27.91	0.004713	0.005587	7.05	7.09	7.15	7.20	7.31	7.38
0.300	105.84	27.84	0.005775	0.006665	6.85	6.89	6.94	6.99	7.10	7.16
0.300	96.22	27.84	0.006497	0.007396	6.71	6.75	6.80	6.84	6.95	7.00
0.300	88.20	27.87	0.006990	0.007893	6.61	6.64	6.69	6.74	6.83	6.88
0.300	81.42	27.92	0.007317	0.008221	6.53	6.57	6.61	6.65	6.74	6.79
0.300	75.60	27.99	0.007516	0.008419	6.47	6.51	6.55	6.59	6.67	6.71
0.300	70.56	28.07	0.007626	0.008526	6.43	6.46	6.50	6.54	6.61	6.65
0.300	66.15	28.15	0.007663	0.008560	6.39	6.42	6.46	6.50	6.56	6.60
0.300	62.26	28.24	0.007635	0.008527	6.36	6.39	6.42	6.46	6.52	6.56
0.300	58.80	28.34	0.007566	0.008452	6.33	6.37	6.40	6.43	6.49	6.53
0.300	55.71	28.44	0.007453	0.008333	6.32	6.35	6.37	6.41	6.46	6.50
0.300	52.92	28.54	0.007307	0.008181	6.30	6.33	6.35	6.39	6.43	6.47
0.300	48.11	28.74	0.006954	0.007814	6.28	6.30	6.33	6.36	6.40	6.43
0.300	44.10	28.95	0.006556	0.007402	6.26	6.29	6.31	6.34	6.37	6.41
0.300	40.71	29.16	0.006093	0.006923	6.25	6.28	6.29	6.33	6.35	6.38
0.300	37.80	29.37	0.005593	0.006408	6.25	6.28	6.29	6.32	6.34	6.37
0.400	117.60	28.06	0.005297	0.006178	6.93	6.97	7.03	7.08	7.20	7.26
0.400	105.84	27.99	0.006323	0.007219	6.74	6.78	6.83	6.88	6.99	7.05
0.400	96.22	27.98	0.006999	0.007904	6.60	6.64	6.70	6.74	6.84	6.90
0.400	88.20	28.00	0.007441	0.008349	6.51	6.54	6.59	6.64	6.73	6.79
0.400	81.42	28.06	0.007707	0.008615	6.44	6.47	6.52	6.56	6.65	6.70
0.400	75.60	28.12	0.007843	0.008748	6.38	6.41	6.44	6.50	6.58	6.62
0.400	70.56	28.20	0.007886	0.008787	6.34	6.37	6.41	6.45	6.52	6.57
0.400	66.15	28.29	0.007855	0.008751	6.30	6.34	6.37	6.41	6.48	6.52
0.400	62.26	28.38	0.007758	0.008648	6.28	6.31	6.34	6.38	6.44	6.48
0.400	58.80	28.48	0.007621	0.008504	6.26	6.29	6.32	6.35	6.41	6.45
0.400	55.71	28.58	0.007442	0.008317	6.24	6.27	6.30	6.33	6.38	6.42
0.400	52.92	28.69	0.007231	0.008098	6.23	6.26	6.28	6.31	6.36	6.40
0.400	48.11	28.91	0.006751	0.007601	6.21	6.24	6.26	6.29	6.33	6.36
0.400	44.10	29.13	0.006208	0.007041	6.20	6.23	6.24	6.27	6.30	6.34
0.400	40.71	29.36	0.005630	0.006445	6.19	6.22	6.23	6.26	6.29	6.32
0.400	37.80	29.59	0.005025	0.005821	6.20	6.22	6.23	6.26	6.28	6.31
0.500	117.60	28.19	0.005741	0.006627	6.83	6.87	6.93	6.98	7.10	7.17
0.500	105.84	28.11	0.006718	0.007618	6.64	6.68	6.74	6.79	6.90	6.96
0.500	96.22	28.10	0.007337	0.008243	6.51	6.55	6.61	6.65	6.76	6.81
0.500	88.20	28.12	0.007715	0.008623	6.42	6.46	6.51	6.55	6.65	6.70
0.500	81.42	28.17	0.007911	0.008818	6.35	6.39	6.44	6.48	6.57	6.62
0.500	75.60	28.24	0.007974	0.008877	6.30	6.34	6.38	6.42	6.53	6.55
0.500	70.56	28.32	0.007943	0.008841	6.26	6.30	6.34	6.38	6.45	6.49
0.500	66.15	28.41	0.007839	0.008730	6.23	6.26	6.30	6.34	6.40	6.45
0.500	62.26	28.51	0.007669	0.008552	6.21	6.24	6.27	6.31	6.37	6.41
0.500	58.80	28.62	0.007460	0.008335	6.19	6.22	6.25	6.29	6.34	6.38
0.500	55.71	28.72	0.007210	0.008076	6.18	6.21	6.23	6.27	6.32	6.36
0.500	52.92	28.84	0.006931	0.007787	6.17	6.19	6.22	6.25	6.30	6.34
0.500	48.11	29.07	0.006320	0.007156	6.15	6.18	6.20	6.23	6.27	6.30
0.500	44.10	29.31	0.005654	0.006470	6.15	6.17	6.19	6.22	6.25	6.28
0.500	40.71	29.56	0.004964	0.005759	6.15	6.18	6.19	6.22	6.24	6.27
0.500	37.80	29.82	0.004253	0.005027	6.16	6.18	6.19	6.22	6.23	6.27
0.600	117.60	28.30	0.006080	0.006968	6.74	6.78	6.84	6.89	7.02	7.08
0.600	105.84	28.22	0.006999	0.007900	6.56	6.60	6.66	6.71	6.82	6.88
0.600	96.22	28.20	0.007550	0.008457	6.44	6.47	6.53	6.58	6.68	6.74
0.600	88.20	28.23	0.007854	0.008762	6.35	6.39	6.44	6.48	6.58	6.63
0.600	81.42	28.28	0.007974	0.008879	6.28	6.32	6.37	6.41	6.50	6.54
0.600	75.60	28.35	0.007959	0.008858	6.24	6.27	6.31	6.35	6.43	6.48
0.600	70.56	28.43	0.007849	0.008741	6.20	6.23	6.27	6.31	6.38	6.43
0.600	66.15	28.53	0.007666	0.008549	6.17	6.20	6.24	6.28	6.34	6.38
0.600	62.26	28.63	0.007419	0.008293	6.15	6.18	6.21	6.25	6.31	6.35
0.600	58.80	28.75	0.007135	0.007998	6.13	6.16	6.19	6.23	6.28	6.32
0.600	55.71	28.86	0.006812	0.007665	6.12	6.15	6.18	6.21	6.26	6.30
0.600	52.92	28.99	0.006461	0.007302	6.11	6.14	6.17	6.20	6.24	6.28
0.600	48.11	29.24	0.005716	0.006535	6.11	6.13	6.15	6.18	6.22	6.25
0.600	44.10	29.51	0.004927	0.005721	6.11	6.13	6.15	6.18	6.20	6.24
0.600	40.71	29.78	0.004124	0.004895	6.11	6.14	6.15	6.18	6.20	6.23
0.600	37.80	30.07	0.003312	0.004060	6.13	6.15	6.15	6.18	6.20	6.23
0.700	117.60	28.40	0.006335	0.007224	6.66	6.70	6.76	6.81	6.94	7.01
0.700	105.84	28.31	0.007188	0.008089	6.49	6.52	6.59	6.63	6.75	6.81
0.700	96.22	28.30	0.007664	0.008569	6.37	6.40	6.46	6.51	6.61	6.67
0.700	88.20	28.32	0.007889	0.008793	6.28	6.32	6.37	6.41	6.51	6.56
0.700	81.42	28.37	0.007926	0.008825	6.22	6.26	6.30	6.34	6.43	6.48
0.700	75.60	28.45	0.007827	0.008718	6.17	6.21	6.25	6.29	6.37	6.41
0.700	70.56	28.54	0.007633	0.008516	6.14	6.17	6.21	6.25	6.32	6.36
0.700	66.15	28.64	0.007368	0.008240	6.11	6.15	6.18	6.22	6.28	6.32
0.700	62.26	28.76	0.007041	0.007901	6.10	6.13	6.16	6.19	6.25	6.29
0.700	58.80	28.88	0.006678	0.007527	6.08	6.11	6.14	6.17	6.22	6.26
0.700	55.71	29.01	0.006280	0.007116	6.07	6.10	6.13	6.16	6.21	6.24
0.700	52.92	29.14	0.005857	0.006680	6.07	6.10	6.12	6.15	6.19	6.23
0.700	48.11	29.42	0.004977	0.005774	6.07	6.09	6.11	6.14	6.17	6.21
0.700	44.10	29.72	0.004066	0.004837	6.07	6.10	6.11	6.14	6.16	6.19
0.700	40.71	30.03	0.003156	0.003901	6.09	6.11	6.12	6.14	6.16	6.19
0.700	37.80	30.35	0.002252	0.002970	6.11	6.13	6.13	6.15	6.16	6.19

1.40 % ^{235}U (continued)

DIAMETER OF RODS(IN)	AVE U235 DENS(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
0.800	117.60	28.47	0.006517	0.007406	6.59	6.63	6.69	6.74	6.87	6.93
0.800	105.84	28.40	0.007295	0.008195	6.42	6.46	6.52	6.56	6.68	6.74
0.800	96.22	28.34	0.007847	0.008530	6.30	6.34	6.40	6.44	6.55	6.60
0.800	89.20	28.41	0.007824	0.008723	6.22	6.26	6.31	6.35	6.45	6.50
0.800	81.42	28.46	0.007784	0.008676	6.16	6.20	6.24	6.28	6.37	6.42
0.800	75.60	28.55	0.007596	0.008479	6.12	6.15	6.19	6.23	6.31	6.35
0.800	70.56	28.65	0.007315	0.008157	6.09	6.12	6.16	6.19	6.26	6.31
0.800	66.15	28.76	0.006964	0.007824	6.06	6.09	6.13	6.16	6.23	6.27
0.800	62.26	28.88	0.006555	0.007401	6.05	6.08	6.11	6.14	6.20	6.24
0.800	58.80	29.02	0.006113	0.006945	6.04	6.07	6.09	6.12	6.17	6.21
0.800	55.71	29.16	0.005639	0.006458	6.03	6.06	6.08	6.11	6.16	6.19
0.800	52.92	29.30	0.005145	0.005949	6.03	6.05	6.07	6.11	6.14	6.18
0.800	48.11	29.61	0.004134	0.004908	6.03	6.06	6.07	6.10	6.13	6.16
0.800	44.10	29.94	0.003108	0.003853	6.05	6.07	6.08	6.10	6.12	6.16
0.800	40.71	30.29	0.002100	0.002816	6.07	6.09	6.09	6.12	6.13	6.16
0.800	37.80	30.66	0.001113	0.001801	6.10	6.12	6.11	6.14	6.14	6.17

2.00 % ^{235}U

DIAMETER OF RODS(IN)	AVE U235 DENS(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
0.	151.20	26.76	0.004322	0.005190	7.51	7.55	7.60	7.64	7.75	7.81
0.	126.00	26.72	0.005850	0.006747	7.26	7.29	7.34	7.38	7.48	7.53
0.	108.00	26.79	0.006733	0.007642	7.11	7.14	7.18	7.22	7.30	7.35
0.	94.50	26.90	0.007243	0.008156	7.01	7.04	7.07	7.11	7.17	7.22
0.	84.00	27.04	0.007508	0.008420	6.93	6.96	6.99	7.03	7.08	7.12
0.	75.60	27.18	0.007612	0.008521	6.87	6.90	6.93	6.96	7.00	7.04
0.	68.73	27.33	0.007613	0.008516	6.83	6.86	6.88	6.91	6.95	6.98
0.	63.00	27.49	0.007527	0.008423	6.79	6.82	6.84	6.87	6.90	6.93
0.	58.15	27.64	0.007391	0.008279	6.76	6.79	6.80	6.83	6.86	6.89
0.	54.00	27.79	0.007210	0.008090	6.73	6.76	6.77	6.80	6.82	6.85
0.	47.25	28.10	0.006771	0.007633	6.70	6.72	6.73	6.76	6.77	6.80
0.	42.00	28.40	0.006268	0.007112	6.67	6.69	6.70	6.72	6.73	6.76
0.	37.80	28.69	0.005740	0.006567	6.65	6.67	6.67	6.70	6.70	6.73
0.	34.36	28.98	0.005195	0.006004	6.64	6.66	6.66	6.68	6.68	6.71
0.050	151.20	26.88	0.005071	0.005951	7.33	7.36	7.42	7.46	7.58	7.64
0.050	126.00	26.87	0.006792	0.007704	7.07	7.11	7.16	7.20	7.30	7.35
0.050	108.00	26.96	0.007815	0.008741	6.91	6.95	6.99	7.03	7.12	7.16
0.050	94.50	27.09	0.008471	0.009405	6.80	6.84	6.87	6.91	6.98	7.03
0.050	84.00	27.24	0.008862	0.009797	6.72	6.75	6.79	6.82	6.88	6.92
0.050	75.60	27.40	0.009071	0.010004	6.66	6.69	6.72	6.75	6.80	6.84
0.050	68.73	27.56	0.009150	0.010078	6.61	6.64	6.66	6.70	6.73	6.77
0.050	63.00	27.72	0.009099	0.010021	6.57	6.60	6.62	6.65	6.68	6.72
0.050	58.15	27.87	0.008986	0.009901	6.54	6.57	6.58	6.62	6.64	6.68
0.050	54.00	28.03	0.008825	0.009731	6.51	6.54	6.55	6.59	6.61	6.64
0.050	47.25	28.33	0.008406	0.009296	6.47	6.50	6.51	6.54	6.55	6.58
0.050	42.00	28.62	0.007892	0.008764	6.44	6.47	6.48	6.51	6.51	6.54
0.050	37.80	28.91	0.007339	0.008192	6.42	6.45	6.45	6.48	6.49	6.52
0.050	34.36	29.19	0.006764	0.007600	6.41	6.44	6.44	6.47	6.47	6.50
0.100	151.20	27.01	0.005848	0.006761	7.20	7.24	7.30	7.34	7.47	7.52
0.100	126.00	27.01	0.007694	0.008620	6.94	6.98	7.03	7.08	7.18	7.23
0.100	108.00	27.10	0.008788	0.009731	6.79	6.82	6.87	6.91	7.00	7.04
0.100	94.50	27.24	0.009463	0.010413	6.68	6.71	6.75	6.79	6.86	6.91
0.100	84.00	27.39	0.009844	0.010795	6.60	6.63	6.67	6.71	6.76	6.81
0.100	75.60	27.55	0.010024	0.010972	6.54	6.57	6.60	6.64	6.69	6.73
0.100	68.73	27.70	0.010065	0.011008	6.49	6.52	6.55	6.59	6.63	6.66
0.100	63.00	27.86	0.009988	0.010924	6.46	6.49	6.51	6.54	6.58	6.61
0.100	58.15	28.02	0.009844	0.010772	6.43	6.46	6.48	6.51	6.54	6.57
0.100	54.00	28.17	0.009644	0.010563	6.40	6.43	6.45	6.48	6.50	6.54
0.100	47.25	28.48	0.009138	0.010039	6.37	6.40	6.41	6.44	6.45	6.49
0.100	42.00	28.77	0.008544	0.009426	6.34	6.37	6.38	6.41	6.42	6.45
0.100	37.80	29.06	0.007913	0.008775	6.33	6.36	6.36	6.39	6.40	6.43
0.100	34.36	29.34	0.007257	0.008099	6.32	6.35	6.35	6.38	6.38	6.41
0.200	151.20	27.23	0.007032	0.007944	7.02	7.06	7.12	7.17	7.29	7.35
0.200	126.00	27.23	0.008945	0.009892	6.77	6.80	6.86	6.91	7.01	7.07
0.200	108.00	27.33	0.010040	0.011003	6.62	6.65	6.70	6.74	6.83	6.88
0.200	94.50	27.46	0.010657	0.011626	6.52	6.55	6.60	6.64	6.71	6.75
0.200	84.00	27.61	0.010942	0.011910	6.45	6.48	6.52	6.56	6.62	6.66
0.200	75.60	27.77	0.011011	0.011974	6.39	6.43	6.46	6.49	6.55	6.59
0.200	68.73	27.93	0.010934	0.011889	6.35	6.38	6.41	6.45	6.49	6.53
0.200	63.00	28.09	0.010744	0.011690	6.32	6.35	6.38	6.41	6.45	6.48
0.200	58.15	28.25	0.010486	0.011422	6.30	6.33	6.35	6.38	6.41	6.45
0.200	54.00	28.41	0.010173	0.011098	6.28	6.31	6.33	6.36	6.39	6.42
0.200	47.25	28.73	0.009448	0.010349	6.25	6.28	6.30	6.33	6.35	6.38
0.200	42.00	29.04	0.008650	0.009527	6.24	6.27	6.28	6.31	6.32	6.35
0.200	37.80	29.34	0.007831	0.008685	6.24	6.26	6.27	6.30	6.30	6.33
0.200	34.36	29.64	0.007004	0.007835	6.24	6.26	6.27	6.29	6.30	6.33
0.300	151.20	27.40	0.007892	0.008817	6.88	6.92	6.99	7.03	7.17	7.22
0.300	126.00	27.41	0.009769	0.010728	6.64	6.68	6.74	6.78	6.89	6.94
0.300	108.00	27.50	0.010771	0.011744	6.50	6.53	6.59	6.63	6.72	6.77
0.300	94.50	27.66	0.011257	0.012233	6.41	6.44	6.49	6.53	6.60	6.65
0.300	84.00	27.79	0.011403	0.012376	6.34	6.37	6.41	6.45	6.51	6.56
0.300	75.60	27.95	0.011331	0.012295	6.29	6.33	6.36	6.40	6.45	6.49
0.300	68.73	28.12	0.011114	0.012068	6.26	6.29	6.32	6.36	6.40	6.44
0.300	63.00	28.29	0.010788	0.011730	6.23	6.26	6.29	6.32	6.36	6.40

2.00 % ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.300	58.15	28.46	0.010398	0.011327	6.21	6.24	6.27	6.30	6.33	6.37
0.300	54.00	28.63	0.009959	0.010874	6.20	6.23	6.25	6.28	6.31	6.34
0.300	47.25	28.97	0.009398	0.009895	6.18	6.21	6.23	6.26	6.28	6.31
0.300	42.00	29.31	0.007789	0.008846	6.18	6.21	6.22	6.25	6.26	6.29
0.300	37.80	29.65	0.006981	0.007811	6.18	6.21	6.21	6.24	6.25	6.28
0.300	34.36	29.97	0.006062	0.006866	6.19	6.22	6.22	6.25	6.25	6.28
0.400	151.20	27.54	0.008537	0.009471	6.77	6.81	6.88	6.93	7.06	7.12
0.400	126.00	27.55	0.010323	0.011289	6.54	6.58	6.64	6.68	6.80	6.85
0.400	108.00	27.64	0.011195	0.012173	6.41	6.44	6.50	6.54	6.63	6.68
0.400	94.50	27.78	0.011533	0.012511	6.32	6.35	6.40	6.44	6.52	6.56
0.400	84.00	27.94	0.011526	0.012497	6.26	6.29	6.33	6.37	6.43	6.48
0.400	75.60	28.11	0.011300	0.012260	6.22	6.25	6.28	6.32	6.37	6.41
0.400	68.73	28.29	0.010933	0.011879	6.19	6.22	6.25	6.28	6.33	6.37
0.400	63.00	28.48	0.010464	0.011395	6.17	6.20	6.22	6.26	6.29	6.33
0.400	58.15	28.66	0.009936	0.010851	6.15	6.18	6.20	6.23	6.27	6.30
0.400	54.00	28.85	0.009367	0.010264	6.14	6.17	6.19	6.22	6.25	6.28
0.400	47.25	29.23	0.008167	0.009030	6.13	6.16	6.17	6.20	6.22	6.25
0.400	42.00	29.61	0.006945	0.007774	6.14	6.16	6.17	6.20	6.21	6.24
0.400	37.80	29.99	0.005753	0.006550	6.15	6.17	6.18	6.21	6.21	6.24
0.400	34.36	30.38	0.004599	0.005364	6.17	6.19	6.19	6.22	6.22	6.25
0.500	151.20	27.67	0.009025	0.009967	6.68	6.72	6.79	6.84	6.97	7.03
0.500	126.00	27.67	0.010690	0.011661	6.46	6.49	6.56	6.60	6.71	6.77
0.500	108.00	27.77	0.011409	0.012389	6.33	6.36	6.42	6.46	6.55	6.60
0.500	94.50	27.91	0.011582	0.012558	6.24	6.28	6.33	6.37	6.44	6.49
0.500	84.00	28.08	0.011408	0.012373	6.19	6.22	6.26	6.30	6.36	6.41
0.500	75.60	28.27	0.011017	0.011968	6.15	6.18	6.22	6.25	6.31	6.35
0.500	68.73	28.46	0.010491	0.011425	6.13	6.16	6.19	6.22	6.27	6.30
0.500	63.00	28.67	0.009871	0.010785	6.11	6.14	6.16	6.20	6.23	6.27
0.500	58.15	28.87	0.009201	0.010096	6.10	6.13	6.15	6.18	6.21	6.25
0.500	54.00	29.08	0.008496	0.009371	6.09	6.12	6.14	6.17	6.20	6.23
0.500	47.25	29.51	0.007056	0.007890	6.10	6.12	6.13	6.16	6.18	6.21
0.500	42.00	29.95	0.005631	0.006426	6.11	6.13	6.14	6.17	6.18	6.21
0.500	37.80	30.39	0.004267	0.005025	6.13	6.16	6.16	6.18	6.19	6.22
0.500	34.36	30.85	0.002972	0.003693	6.16	6.19	6.18	6.21	6.21	6.23
0.600	151.20	27.77	0.009396	0.010343	6.60	6.64	6.71	6.76	6.89	6.95
0.600	126.00	27.77	0.010915	0.011889	6.38	6.42	6.48	6.53	6.64	6.69
0.600	108.00	27.88	0.011465	0.012443	6.26	6.29	6.35	6.39	6.48	6.53
0.600	94.50	28.03	0.011458	0.012429	6.18	6.21	6.26	6.30	6.38	6.42
0.600	84.00	28.22	0.011105	0.012061	6.13	6.16	6.20	6.24	6.30	6.34
0.600	75.60	28.42	0.010539	0.011476	6.09	6.13	6.16	6.19	6.25	6.29
0.600	68.73	28.64	0.009849	0.010765	6.07	6.10	6.13	6.17	6.21	6.25
0.600	63.00	28.87	0.009073	0.009966	6.06	6.09	6.11	6.15	6.18	6.22
0.600	58.15	29.10	0.008260	0.009130	6.05	6.08	6.10	6.13	6.16	6.20
0.600	54.00	29.33	0.007423	0.008269	6.06	6.08	6.10	6.13	6.15	6.19
0.600	47.25	29.82	0.005752	0.006553	6.07	6.09	6.10	6.13	6.15	6.18
0.600	42.00	30.32	0.004141	0.004897	6.09	6.12	6.12	6.15	6.16	6.18
0.600	37.80	30.85	0.002630	0.003345	6.13	6.15	6.15	6.17	6.18	6.20
0.600	34.36	31.40	0.001227	0.001901	6.18	6.19	6.19	6.21	6.20	6.23

3.00 % ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	189.00	26.13	0.008487	0.009447	7.34	7.37	7.43	7.47	7.59	7.64
0.	162.00	26.19	0.009579	0.010556	7.18	7.21	7.26	7.30	7.39	7.44
0.	141.75	26.28	0.010283	0.011268	7.07	7.10	7.14	7.18	7.25	7.30
0.	126.00	26.40	0.010733	0.011720	6.98	7.01	7.05	7.09	7.15	7.19
0.	113.40	26.51	0.011013	0.012000	6.92	6.95	6.98	7.01	7.06	7.10
0.	103.09	26.63	0.011171	0.012155	6.86	6.89	6.92	6.95	6.99	7.03
0.	94.50	26.75	0.011238	0.012218	6.82	6.84	6.87	6.90	6.93	6.97
0.	87.23	26.87	0.011237	0.012213	6.78	6.81	6.82	6.86	6.88	6.92
0.	81.00	26.99	0.011187	0.012158	6.74	6.77	6.79	6.82	6.84	6.87
0.	70.87	27.23	0.010975	0.011934	6.69	6.72	6.73	6.76	6.77	6.80
0.	63.00	27.46	0.010663	0.011608	6.65	6.67	6.68	6.71	6.71	6.74
0.	56.70	27.68	0.010293	0.011224	6.61	6.64	6.64	6.67	6.67	6.70
0.	51.55	27.89	0.009868	0.010806	6.59	6.61	6.61	6.64	6.64	6.67
0.	47.25	28.10	0.009465	0.010369	6.56	6.59	6.59	6.62	6.61	6.64
0.	43.62	28.31	0.009030	0.009921	6.55	6.57	6.57	6.60	6.59	6.61
0.	37.80	28.70	0.008149	0.009015	6.52	6.55	6.54	6.57	6.56	6.58
0.050	189.00	26.29	0.009562	0.010540	7.13	7.17	7.23	7.27	7.39	7.44
0.050	162.00	26.37	0.010799	0.011795	6.97	7.01	7.06	7.10	7.20	7.24
0.050	141.75	26.48	0.011657	0.012664	6.85	6.89	6.93	6.97	7.05	7.09
0.050	126.00	26.61	0.012239	0.013252	6.76	6.80	6.84	6.87	6.94	6.98
0.050	113.40	26.75	0.012630	0.013643	6.69	6.72	6.76	6.79	6.85	6.88
0.050	103.09	26.89	0.012871	0.013883	6.63	6.66	6.69	6.73	6.77	6.81
0.050	94.50	27.02	0.012976	0.013986	6.59	6.62	6.64	6.68	6.71	6.75
0.050	87.23	27.14	0.013005	0.014009	6.55	6.58	6.60	6.63	6.66	6.70
0.050	81.00	27.27	0.012977	0.013977	6.52	6.54	6.57	6.60	6.62	6.65
0.050	70.87	27.52	0.012793	0.013781	6.46	6.49	6.51	6.54	6.55	6.58
0.050	63.00	27.75	0.012474	0.013449	6.42	6.45	6.46	6.49	6.50	6.53
0.050	56.70	27.98	0.012081	0.013040	6.39	6.41	6.42	6.45	6.46	6.49
0.050	51.55	28.19	0.011650	0.012595	6.36	6.39	6.40	6.43	6.42	6.45
0.050	47.25	28.40	0.011193	0.012126	6.34	6.37	6.38	6.40	6.40	6.43
0.050	43.62	28.61	0.010723	0.011641	6.33	6.35	6.36	6.39	6.38	6.41
0.050	37.80	29.00	0.009767	0.010658	6.31	6.33	6.33	6.36	6.35	6.38

3.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVG U235 DENSITY(G/L)	MODERATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
C.1C0	189.00	26.42	0.013514	0.011508	7.01	7.05	7.11	7.16	7.28	7.33
C.1C0	162.00	26.51	0.011834	0.012869	6.85	6.88	6.94	6.98	7.08	7.12
C.1C0	141.75	26.63	0.012718	0.013743	6.73	6.77	6.82	6.85	6.93	6.98
C.1C0	126.00	26.77	0.013295	0.014324	6.65	6.68	6.72	6.76	6.82	6.86
C.1C0	113.40	26.90	0.013660	0.014690	6.58	6.61	6.65	6.68	6.73	6.77
C.1C0	103.09	27.04	0.013863	0.014892	6.52	6.55	6.59	6.62	6.66	6.70
C.1C0	94.50	27.18	0.013945	0.014970	6.48	6.51	6.54	6.57	6.61	6.64
C.1C0	87.23	27.31	0.013940	0.014960	6.44	6.47	6.50	6.53	6.56	6.59
C.1C0	81.00	27.44	0.013873	0.014886	6.41	6.44	6.46	6.49	6.52	6.55
C.1C0	7C.87	27.69	0.013595	0.014595	6.36	6.39	6.41	6.44	6.45	6.48
C.1C0	63.00	27.93	0.013188	0.014172	6.32	6.35	6.36	6.39	6.40	6.43
C.1C0	56.70	28.16	0.012706	0.013675	6.29	6.32	6.33	6.36	6.37	6.40
C.1C0	51.55	28.38	0.012182	0.013134	6.27	6.30	6.31	6.34	6.34	6.37
C.1C0	47.25	28.59	0.011635	0.012572	6.26	6.28	6.29	6.32	6.32	6.35
C.1C0	43.62	28.80	0.011073	0.011994	6.25	6.27	6.28	6.31	6.30	6.33
C.1C0	37.80	29.20	0.009941	0.010832	6.24	6.26	6.26	6.29	6.28	6.31
C.2C0	189.00	26.63	0.011852	0.012868	6.84	6.88	6.94	6.99	7.11	7.16
0.200	162.00	26.73	0.013183	0.014219	6.68	6.72	6.77	6.81	6.91	6.96
C.2C0	141.75	26.86	0.014003	0.015049	6.57	6.60	6.66	6.69	6.78	6.82
C.2C0	126.00	27.00	0.014480	0.015528	6.49	6.52	6.57	6.60	6.67	6.71
C.2C0	113.40	27.14	0.014726	0.015773	6.43	6.46	6.50	6.53	6.59	6.63
0.200	103.09	27.28	0.014802	0.015844	6.38	6.41	6.44	6.48	6.52	6.56
C.2C0	94.50	27.42	0.014757	0.015793	6.34	6.37	6.40	6.43	6.47	6.51
C.200	87.23	27.56	0.014624	0.015652	6.31	6.34	6.36	6.40	6.43	6.46
0.2C0	81.00	27.70	0.014426	0.015445	6.28	6.31	6.33	6.37	6.39	6.43
C.200	7C.87	27.96	0.013891	0.014891	6.24	6.27	6.29	6.32	6.34	6.37
C.200	63.00	28.21	0.013286	0.014266	6.21	6.24	6.26	6.29	6.30	6.33
C.2C0	56.70	28.46	0.012578	0.013537	6.19	6.22	6.23	6.26	6.27	6.30
C.200	51.55	28.70	0.011841	0.012780	6.18	6.21	6.22	6.24	6.25	6.28
C.2C0	47.25	28.94	0.011094	0.012013	6.17	6.20	6.21	6.23	6.23	6.26
C.2C0	43.62	29.16	0.010351	0.011249	6.17	6.19	6.20	6.23	6.22	6.25
C.2C0	37.80	29.61	0.008892	0.009753	6.17	6.20	6.20	6.22	6.22	6.25
C.3C0	189.00	26.80	0.012752	0.013784	6.71	6.75	6.82	6.86	6.99	7.04
C.3C0	162.00	26.90	0.013993	0.015043	6.56	6.60	6.66	6.70	6.80	6.85
C.3C0	141.75	27.03	0.014686	0.015742	6.46	6.49	6.54	6.58	6.66	6.71
C.3C0	126.00	27.18	0.015018	0.016074	6.38	6.41	6.46	6.50	6.56	6.61
C.300	113.40	27.33	0.015110	0.016161	6.32	6.36	6.40	6.43	6.49	6.53
C.3C0	103.09	27.48	0.015031	0.016074	6.28	6.31	6.35	6.38	6.43	6.47
C.3C0	94.50	27.63	0.014833	0.015866	6.24	6.27	6.31	6.34	6.38	6.42
C.3C0	87.23	27.78	0.014547	0.015569	6.21	6.25	6.27	6.31	6.34	6.37
C.3C0	81.00	27.93	0.014202	0.015212	6.19	6.22	6.25	6.28	6.31	6.34
C.3C0	7C.87	28.22	0.013385	0.014369	6.16	6.19	6.21	6.24	6.26	6.29
C.3C0	63.00	28.51	0.012470	0.013428	6.14	6.17	6.18	6.21	6.22	6.26
C.300	56.70	28.79	0.011517	0.012448	6.13	6.15	6.17	6.19	6.20	6.23
C.3C0	51.55	29.06	0.010556	0.011462	6.12	6.15	6.16	6.18	6.19	6.22
C.3C0	47.25	29.33	0.009606	0.010486	6.12	6.15	6.15	6.18	6.18	6.21
C.300	43.62	29.60	0.008676	0.009532	6.13	6.15	6.16	6.18	6.18	6.21
C.3C0	37.80	30.13	0.006898	0.007708	6.15	6.17	6.17	6.19	6.19	6.22
C.4C0	189.00	26.93	0.013376	0.014419	6.61	6.65	6.72	6.77	6.89	6.94
C.4C0	162.00	27.04	0.014484	0.015541	6.46	6.50	6.56	6.60	6.70	6.75
C.4C0	141.75	27.18	0.015019	0.016079	6.36	6.40	6.45	6.49	6.58	6.62
C.4C0	126.00	27.33	0.015182	0.016238	6.29	6.33	6.37	6.41	6.48	6.52
C.4C0	113.40	27.49	0.015102	0.016149	6.24	6.27	6.31	6.35	6.41	6.45
C.4C0	103.09	27.66	0.014850	0.015885	6.20	6.23	6.27	6.30	6.35	6.39
C.4C0	94.50	27.82	0.014482	0.015504	6.17	6.20	6.23	6.26	6.30	6.34
C.4C0	87.23	27.99	0.014032	0.015039	6.14	6.17	6.20	6.23	6.27	6.30
C.4C0	81.00	28.16	0.013528	0.014519	6.12	6.15	6.18	6.21	6.24	6.27
C.4C0	7C.87	28.49	0.012413	0.013372	6.10	6.13	6.14	6.18	6.20	6.23
C.4C0	63.00	28.82	0.011227	0.012153	6.08	6.11	6.13	6.16	6.17	6.20
C.4C0	56.70	29.14	0.010031	0.010924	6.08	6.11	6.12	6.15	6.16	6.18
C.4C0	51.55	29.46	0.008853	0.009716	6.08	6.11	6.12	6.14	6.15	6.18
C.4C0	47.25	29.78	0.007709	0.008542	6.09	6.12	6.12	6.15	6.15	6.18
C.4C0	43.62	30.10	0.006611	0.007415	6.11	6.13	6.13	6.16	6.16	6.19
C.4C0	37.80	30.75	0.004558	0.005308	6.15	6.17	6.16	6.19	6.18	6.21
C.5C0	189.00	27.05	0.013801	0.014850	6.52	6.56	6.63	6.68	6.80	6.86
C.5C0	162.00	27.16	0.014744	0.015804	6.38	6.42	6.48	6.52	6.62	6.67
C.5C0	141.75	27.31	0.015095	0.016154	6.28	6.32	6.37	6.41	6.50	6.54
C.5C0	126.00	27.48	0.015085	0.016136	6.22	6.25	6.30	6.34	6.40	6.45
C.5C0	113.40	27.65	0.014814	0.015853	6.17	6.20	6.24	6.28	6.33	6.37
C.5C0	103.09	27.84	0.014376	0.015398	6.13	6.16	6.20	6.23	6.28	6.32
C.5C0	94.50	28.02	0.013828	0.014832	6.10	6.13	6.16	6.20	6.24	6.27
C.5C0	87.23	28.21	0.013205	0.014191	6.08	6.11	6.14	6.17	6.20	6.24
C.5C0	81.00	28.40	0.012534	0.013500	6.06	6.09	6.12	6.15	6.18	6.21
C.5C0	7C.87	28.78	0.011116	0.012042	6.05	6.07	6.09	6.12	6.14	6.18
C.5C0	63.00	29.16	0.009665	0.010553	6.04	6.07	6.08	6.11	6.13	6.16
C.5C0	56.70	29.53	0.008239	0.009088	6.05	6.08	6.08	6.11	6.12	6.15
C.5C0	51.55	29.91	0.006863	0.007676	6.06	6.09	6.09	6.12	6.13	6.15
C.5C0	47.25	30.30	0.005555	0.006334	6.09	6.11	6.11	6.13	6.14	6.16
C.5C0	43.62	30.69	0.004319	0.005065	6.11	6.13	6.13	6.15	6.15	6.18
C.5C0	37.80	31.50	0.002068	0.002752	6.17	6.19	6.18	6.21	6.20	6.22
C.6C0	189.00	27.15	0.014078	0.015131	6.44	6.48	6.56	6.60	6.73	6.78
C.6C0	162.00	27.27	0.014835	0.015896	6.30	6.34	6.40	6.45	6.55	6.59
C.6C0	141.75	27.44	0.014983	0.016038	6.21	6.25	6.30	6.34	6.42	6.47
C.6C0	126.00	27.62	0.014747	0.015789	6.15	6.18	6.23	6.26	6.33	6.37
C.6C0	113.40	27.82	0.014269	0.015293	6.10	6.13	6.17	6.21	6.26	6.30
C.6C0	103.09	28.03	0.013632	0.014636	6.06	6.10	6.13	6.17	6.21	6.25
C.6C0	94.50	28.23	0.012938	0.013921	6.04	6.07	6.10	6.14	6.18	6.21
C.6C0	87.23	28.44	0.012139	0.013098	6.03	6.06	6.08	6.11	6.15	6.18
C.6C0	81.00	28.66	0.011304	0.012240	6.02	6.04	6.07	6.10	6.13	6.16
C.6C0	7C.87	29.09	0.009594	0.010483	6.01	6.04	6.05	6.08	6.10	6.13

3.00 % ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
C.6CO	63.00	27.53	0.007498	0.008743	6.02	6.04	6.05	6.08	6.09	6.12
C.6CO	56.70	29.97	0.006270	0.007071	6.04	6.06	6.07	6.09	6.10	6.13
C.6CC	51.55	30.42	0.004735	0.005495	6.06	6.09	6.09	6.11	6.11	6.14
C.6CO	47.25	30.89	0.003104	0.004025	6.10	6.12	6.11	6.14	6.14	6.16
C.6CO	43.62	31.37	0.001976	0.002660	6.14	6.15	6.15	6.17	6.16	6.19
C.6CC	37.80	32.41		0.000245		6.25		6.25		6.26

5.00 % ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
C.	27C.00	25.35	C.C13569	0.015086	7.33	7.37	7.43	7.47	7.58	7.62
C.	236.25	25.46	0.014607	C.015932	7.22	7.25	7.30	7.34	7.42	7.47
0.	21C.00	25.58	C.C15387	C.016516	7.13	7.16	7.20	7.24	7.31	7.35
0.	189.00	25.70	C.C15788	C.016916	7.05	7.09	7.12	7.16	7.21	7.25
C.	157.5C	25.92	0.C16231	0.017354	6.94	6.97	7.00	7.03	7.06	7.09
C.	135.0C	26.13	0.016399	0.017513	6.85	6.88	6.90	6.93	6.95	6.98
0.	118.12	26.33	C.C16399	0.017504	6.78	6.81	6.82	6.86	6.86	6.89
C.	105.00	26.51	C.C16305	0.0174CC	6.73	6.75	6.76	6.79	6.79	6.82
C.	85.91	26.86	0.015944	0.017020	6.64	6.67	6.67	6.70	6.69	6.72
C.	72.69	27.18	0.015460	0.016517	6.58	6.61	6.61	6.64	6.62	6.64
0.	63.00	27.48	C.C14911	0.01595C	6.53	6.56	6.56	6.59	6.56	6.59
0.	55.59	27.76	C.C14305	C.015326	6.5C	6.52	6.52	6.55	6.52	6.55
C.	49.74	28.02	0.013656	0.014660	6.47	6.50	6.49	6.52	6.49	6.52
C.	45.00	28.28	0.012978	0.013963	6.45	6.48	6.47	6.50	6.47	6.50
0.	36.35	28.87	C.C11188	C.012124	6.42	6.44	6.44	6.46	6.43	6.46
0.	3C.48	29.42	C.C09423	0.010311	6.41	6.43	6.42	6.45	6.42	6.44
0.030	27C.0C	25.46	0.014834	0.015965	7.17	7.21	7.27	7.31	7.42	7.47
0.030	236.25	25.59	0.015784	0.016925	7.05	7.09	7.14	7.18	7.26	7.31
0.030	21C.00	25.73	C.C16479	C.017625	6.96	6.99	7.03	7.07	7.14	7.18
0.030	189.0C	25.86	C.C16989	0.018137	6.88	6.91	6.95	6.98	7.04	7.07
0.030	157.5C	26.11	0.017543	0.018687	6.76	6.79	6.82	6.85	6.88	6.92
0.030	135.0C	26.34	0.017756	0.018892	6.67	6.70	6.72	6.76	6.77	6.81
0.030	118.12	26.55	0.C17600	0.018927	6.6C	6.63	6.65	6.68	6.69	6.72
0.030	105.0C	26.75	C.C17686	0.018802	6.55	6.58	6.59	6.63	6.62	6.66
0.030	85.91	27.11	0.017272	0.018367	6.47	6.50	6.51	6.54	6.53	6.56
C.030	72.69	27.43	C.C16776	0.017853	6.42	6.44	6.45	6.48	6.46	6.49
0.030	63.0C	27.74	C.C16212	C.017271	6.37	6.40	6.40	6.43	6.41	6.44
0.030	55.59	28.03	C.C15590	0.016631	6.34	6.37	6.37	6.40	6.37	6.40
C.030	49.74	28.29	C.C14915	0.015938	6.32	6.34	6.34	6.37	6.34	6.37
C.030	45.0C	28.55	0.014207	0.015211	6.3C	6.32	6.32	6.35	6.32	6.35
0.030	36.35	29.14	0.012318	0.013271	6.27	6.30	6.29	6.32	6.29	6.32
C.030	3C.48	29.68	C.C10454	0.011358	6.26	6.29	6.28	6.31	6.28	6.30
C.050	27C.0C	25.52	0.015358	0.016498	7.11	7.15	7.21	7.25	7.36	7.41
C.050	236.25	25.66	0.016350	0.017501	6.99	7.03	7.08	7.12	7.20	7.25
C.050	21C.00	25.80	C.C17C66	C.018222	6.89	6.93	6.97	7.01	7.08	7.12
C.050	189.00	25.93	C.C17579	0.018737	6.81	6.85	6.89	6.92	6.98	7.02
C.050	157.5C	26.19	0.018143	0.019297	6.7C	6.73	6.76	6.79	6.83	6.86
C.050	135.0C	26.42	0.018362	0.019508	6.61	6.64	6.66	6.70	6.72	6.75
0.050	118.12	26.64	0.018390	C.019526	6.54	6.57	6.59	6.62	6.63	6.66
C.050	105.0C	26.84	C.C18286	0.019412	6.49	6.52	6.53	6.57	6.56	6.60
C.050	85.91	27.21	0.017870	0.018975	6.41	6.44	6.45	6.48	6.47	6.50
0.050	72.69	27.55	C.C17313	0.018397	6.36	6.38	6.39	6.42	6.40	6.43
0.050	63.00	27.85	C.C16678	0.017744	6.32	6.34	6.35	6.38	6.35	6.38
0.050	55.59	28.14	C.C15977	0.017023	6.29	6.31	6.32	6.34	6.32	6.35
C.050	49.74	28.41	0.015228	0.016254	6.27	6.29	6.29	6.32	6.30	6.32
C.050	45.0C	28.66	0.014449	0.015455	6.25	6.28	6.28	6.30	6.28	6.31
C.050	36.35	29.25	C.C12413	0.013365	6.23	6.26	6.25	6.28	6.25	6.28
0.050	3C.48	29.80	C.C10421	0.011321	6.23	6.25	6.25	6.27	6.25	6.27
C.075	27C.0C	25.59	C.C15927	0.017077	7.04	7.08	7.14	7.19	7.29	7.34
C.075	236.25	25.73	0.C16947	0.018108	6.92	6.96	7.01	7.05	7.14	7.18
C.075	21C.0C	25.87	C.C17671	0.018837	6.83	6.86	6.91	6.95	7.01	7.06
C.075	189.0C	26.01	C.C18172	0.01934C	6.75	6.79	6.82	6.86	6.91	6.95
C.075	157.5C	26.27	C.C18717	0.019880	6.64	6.67	6.70	6.73	6.76	6.80
C.075	135.0C	26.51	C.C18905	0.020060	6.55	6.58	6.61	6.64	6.66	6.69
C.075	118.12	26.73	C.C18889	0.020032	6.48	6.52	6.53	6.57	6.57	6.61
C.075	105.00	26.94	C.C18745	0.019877	6.43	6.46	6.48	6.51	6.51	6.54
C.075	85.91	27.32	0.018235	0.019345	6.36	6.39	6.40	6.43	6.42	6.45
0.075	72.69	27.66	0.017576	0.018661	6.31	6.33	6.34	6.37	6.35	6.38
C.075	63.0C	27.97	0.016831	0.017896	6.27	6.30	6.30	6.33	6.31	6.34
C.075	55.59	28.26	0.C16033	0.017076	6.24	6.27	6.27	6.30	6.28	6.31
C.075	49.74	28.54	C.C15193	0.016215	6.23	6.25	6.25	6.28	6.26	6.29
C.075	45.0C	28.80	C.C14332	0.015332	6.22	6.24	6.24	6.27	6.25	6.27
C.075	36.35	29.40	0.012122	0.013065	6.20	6.23	6.23	6.25	6.23	6.25
C.075	3C.48	29.97	C.C09599	0.01C887	6.21	6.23	6.23	6.25	6.23	6.25
C.1CO	27C.00	25.64	0.C16393	0.017551	6.99	7.03	7.09	7.13	7.24	7.29
C.1CO	236.25	25.79	C.C17418	C.018587	6.87	6.91	6.96	7.00	7.08	7.13
C.1CO	21C 00	25.94	C.C18132	0.019306	6.77	6.81	6.86	6.90	6.96	7.00
C.1CO	189.00	26.08	0.C18630	0.019805	6.7C	6.73	6.77	6.81	6.86	6.90
0.1CO	157.5C	26.35	C.C19137	C.020307	6.59	6.62	6.65	6.69	6.72	6.75
C.1CO	135.00	26.59	C.C19278	0.020438	6.5C	6.53	6.56	6.59	6.61	6.65
C.1CO	118.12	26.82	0.C19205	0.020353	6.44	6.47	6.49	6.52	6.53	6.56
C.1CO	105.00	27.03	0.C19004	0.020139	6.39	6.42	6.43	6.47	6.47	6.50
C.1CO	85.91	27.41	0.018380	0.019489	6.32	6.34	6.36	6.39	6.38	6.41

5.00 % ^{235}U (continued)

DIAMETER OF ROD(IN)					REFL SAV(CM)-SPH		REFL SAV(CM)-CYL		REFL SAV(CM)-SLAB	
			CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE	CRITICAL	SAFE
0.100	[illegible]	[illegible]	[illegible]	0.018648	6.27	6.30	6.30	6.33	6.32	6.35
0.100	[illegible]	[illegible]	[illegible]	0.017515	6.24	6.26	6.27	6.30	6.28	6.31
0.100	[illegible]	[illegible]	[illegible]	0.016417	6.21	6.24	6.24	6.27	6.25	6.28
0.100	[illegible]	[illegible]	[illegible]	0.015346	6.20	6.23	6.23	6.26	6.23	6.26
0.100	45.72	[illegible]	0.013691	0.014981	6.19	6.22	6.22	6.25	6.22	6.25
0.100	36.39	29.56	0.011615	0.012544	6.19	6.21	6.21	6.23	6.21	6.24
0.100	30.48	[illegible]	0.009867	0.010235	6.20	6.22	6.21	6.24	6.22	6.24
0.200	270.00	25.84	0.017730	0.018910	6.82	6.86	6.92	6.97	7.07	7.12
0.200	236.25	26.00	0.018697	0.019886	6.70	6.74	6.79	6.84	6.92	6.97
0.200	210.00	26.15	0.019310	0.020532	6.61	6.65	6.70	6.74	6.80	6.85
0.200	189.00	26.31	0.019675	0.020865	6.54	6.58	6.62	6.66	6.71	6.75
0.200	157.50	26.59	0.019905	0.021083	6.44	6.47	6.50	6.54	6.57	6.61
0.200	135.00	26.85	0.019754	0.020916	6.36	6.39	6.42	6.45	6.47	6.51
0.200	118.12	27.10	0.019381	0.020524	6.30	6.33	6.35	6.39	6.40	6.43
0.200	105.00	27.34	0.018886	0.020010	6.26	6.29	6.31	6.34	6.34	6.38
0.200	85.91	27.77	0.017705	0.018791	6.20	6.23	6.24	6.27	6.27	6.30
0.200	72.69	28.17	0.016421	0.017471	6.16	6.19	6.20	6.23	6.22	6.25
0.200	63.00	28.54	0.015116	0.016132	6.15	6.17	6.18	6.21	6.19	6.22
0.200	55.59	28.90	0.013811	0.014794	6.14	6.16	6.17	6.19	6.18	6.21
0.200	49.74	29.21	0.012696	0.013651	6.14	6.16	6.16	6.19	6.17	6.20
0.200	45.00	29.53	0.011438	0.012361	6.14	6.16	6.16	6.19	6.17	6.20
0.200	36.35	30.32	0.008426	0.009272	6.16	6.19	6.18	6.21	6.19	6.22
0.200	30.48	31.10	0.005725	0.006500	6.21	6.23	6.22	6.24	6.23	6.25
0.300	270.00	25.99	0.018507	0.019699	6.69	6.73	6.80	6.85	6.95	7.00
0.300	236.25	26.16	0.019343	0.020541	6.58	6.62	6.68	6.72	6.80	6.85
0.300	210.00	26.32	0.019802	0.020999	6.49	6.53	6.58	6.62	6.69	6.73
0.300	189.00	26.49	0.019998	0.021189	6.43	6.46	6.50	6.54	6.60	6.64
0.300	157.50	26.80	0.019879	0.021050	6.32	6.36	6.39	6.43	6.46	6.50
0.300	135.00	27.09	0.019376	0.020524	6.25	6.29	6.31	6.35	6.37	6.41
0.300	118.12	27.37	0.018661	0.019782	6.20	6.23	6.26	6.29	6.30	6.34
0.300	105.00	27.64	0.017839	0.018934	6.17	6.19	6.21	6.25	6.25	6.28
0.300	85.91	28.15	0.016058	0.017102	6.12	6.15	6.16	6.19	6.19	6.22
0.300	72.69	28.63	0.014249	0.015244	6.10	6.12	6.13	6.16	6.16	6.18
0.300	63.00	29.08	0.012489	0.013439	6.09	6.12	6.12	6.15	6.14	6.17
0.300	55.59	29.51	0.010797	0.011704	6.10	6.12	6.13	6.15	6.14	6.17
0.300	49.74	29.94	0.009183	0.010049	6.11	6.14	6.14	6.16	6.15	6.18
0.300	45.00	30.36	0.007648	0.008475	6.13	6.16	6.15	6.18	6.17	6.19
0.300	36.35	31.43	0.004168	0.004903	6.20	6.22	6.21	6.24	6.22	6.25
0.300	30.48	32.44	0.001597	0.002261	6.28	6.30	6.28	6.30	6.29	6.31
0.400	270.00	26.12	0.018942	0.020139	6.59	6.63	6.70	6.74	6.85	6.90
0.400	236.25	26.30	0.019604	0.020803	6.48	6.52	6.57	6.62	6.70	6.75
0.400	210.00	26.48	0.019872	0.021065	6.39	6.43	6.48	6.52	6.59	6.63
0.400	189.00	26.65	0.019868	0.021051	6.33	6.36	6.41	6.45	6.50	6.54
0.400	157.50	27.00	0.019342	0.020497	6.23	6.26	6.30	6.33	6.37	6.41
0.400	135.00	27.33	0.018488	0.019611	6.17	6.20	6.23	6.26	6.28	6.32
0.400	118.12	27.66	0.017405	0.018493	6.12	6.15	6.17	6.21	6.22	6.25
0.400	105.00	27.97	0.016240	0.017294	6.09	6.12	6.14	6.17	6.18	6.21
0.400	85.91	28.57	0.013856	0.014844	6.06	6.09	6.10	6.13	6.13	6.16
0.400	72.69	29.14	0.011550	0.012477	6.06	6.08	6.09	6.12	6.11	6.14
0.400	63.00	29.70	0.009388	0.010260	6.07	6.09	6.10	6.12	6.12	6.14
0.400	55.59	30.24	0.007382	0.008203	6.10	6.12	6.12	6.14	6.13	6.16
0.400	49.74	30.79	0.005526	0.006299	6.13	6.15	6.15	6.17	6.16	6.19
0.400	45.00	31.36	0.003820	0.004548	6.17	6.19	6.18	6.21	6.19	6.22
0.400	36.35	32.88	0.000155	0.000779	6.29	6.31	6.29	6.31	6.30	6.32
0.600	270.00	26.34	0.019157	0.020351	6.41	6.45	6.52	6.56	6.67	6.72
0.600	236.25	26.55	0.019387	0.020574	6.30	6.34	6.40	6.44	6.52	6.57
0.600	210.00	26.77	0.019199	0.020370	6.22	6.26	6.31	6.35	6.41	6.46
0.600	189.00	27.00	0.018734	0.019884	6.16	6.19	6.24	6.27	6.33	6.37
0.600	157.50	27.44	0.017316	0.018417	6.07	6.10	6.14	6.17	6.21	6.25
0.600	135.00	27.88	0.015600	0.016650	6.02	6.05	6.08	6.11	6.14	6.17
0.600	118.12	28.30	0.013900	0.014901	6.00	6.03	6.05	6.08	6.10	6.13
0.600	105.00	28.72	0.012094	0.013045	5.99	6.01	6.03	6.06	6.07	6.10
0.600	85.91	29.54	0.008682	0.009543	6.00	6.03	6.03	6.06	6.06	6.09
0.600	72.69	30.37	0.005651	0.006432	6.05	6.07	6.07	6.09	6.09	6.12
0.600	63.00	31.22	0.003012	0.003722	6.11	6.13	6.12	6.15	6.14	6.16
0.600	55.59	32.13	0.000734	0.001381	6.19	6.21	6.19	6.21	6.20	6.22

CRITICAL AND SAFE BUCKLINGS, EXTRAPOLATION DISTANCES, AND MIGRATION AREAS FOR LATTICES OF URANIUM OXIDE - WATER SYSTEMS

0.80% ^{235}U

DIAMETER OF RODS(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.300	33.82	35.31		0.000264		6.85		6.86		6.89
0.300	30.42	34.83		0.000075		6.75		6.76		6.78
0.400	36.05	36.21		0.000105		6.94		6.95		6.98
0.400	33.82	35.43		0.000339		6.77		6.79		6.83
0.400	30.42	34.93		0.000333		6.67		6.69		6.72
0.400	27.64	34.63		0.000175		6.61		6.62		6.65
0.600	40.64	37.31		0.000294		6.92		6.94		6.98
0.600	38.31	36.44		0.000533		6.80		6.83		6.87
0.600	33.82	35.62	0.000109	0.000697	6.65	6.65	6.65	6.65	6.67	6.67
0.600	30.42	35.10	0.000020	0.000611	6.57	6.57	6.56	6.56	6.57	6.57
0.600	27.64	34.78		0.000370		6.51		6.52		6.55
0.600	25.32	34.60		0.000021		6.48		6.49		6.51
0.800	43.37	37.95		0.000230		6.95		6.98		7.02
0.800	40.64	37.20	0.000001	0.000569	6.82	6.82	6.82	6.82	6.83	6.83
0.800	38.31	36.61	0.000188	0.000765	6.69	6.69	6.70	6.70	6.73	6.73
0.800	33.82	35.77	0.000254	0.000644	6.52	6.55	6.56	6.56	6.58	6.58
0.800	30.42	35.24	0.000078	0.000566	6.47	6.47	6.48	6.48	6.49	6.49
0.800	27.64	34.92		0.000328		6.42		6.43		6.45
1.000	43.37	38.12		0.000429		6.86		6.88		6.93
1.000	40.64	37.35	0.000162	0.000723	6.71	6.71	6.72	6.72	6.75	6.75
1.000	38.31	36.74	0.000305	0.000881	6.61	6.61	6.62	6.62	6.65	6.65
1.000	33.82	35.83	0.000281	0.000364	6.47	6.47	6.48	6.48	6.51	6.51
1.000	30.42	35.36		0.000578		6.41		6.43		6.47
1.000	27.64	35.04		0.000137		6.37		6.38		6.41
1.200	40.79	39.26		0.000067		6.97		6.99		7.03
1.200	43.37	38.25		0.000547		6.79		6.79		6.80
1.200	40.64	37.47	0.000240	0.000804	6.63	6.63	6.64	6.64	6.67	6.67
1.200	38.31	36.85	0.000333	0.000906	6.53	6.53	6.54	6.54	6.57	6.57
1.200	33.82	35.39	0.000200	0.000778	6.41	6.41	6.42	6.42	6.44	6.44
1.200	30.42	35.46		0.000377		6.35		6.37		6.40
1.500	45.45	39.45		0.000207		6.85		6.87		6.92
1.500	43.37	38.41	0.000070	0.000618	6.67	6.67	6.67	6.67	6.69	6.69
1.500	40.64	37.61	0.000235	0.000794	6.53	6.53	6.54	6.54	6.57	6.57
1.500	38.04	36.98	0.000243	0.000809	6.43	6.43	6.45	6.45	6.47	6.47
1.500	33.82	36.11	0.000048	0.000496	6.85	6.33	6.86	6.35	6.89	6.39

0.95% ^{235}U

DIAMETER OF RODS(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	40.16	34.53		0.000019		7.28		7.29		7.32
0.	36.12	34.03		0.000067		7.16		7.18		7.20
0.100	48.26	36.00		0.000012		7.41		7.43		7.46
0.100	45.22	35.45		0.000355		7.27		7.29		7.33
0.100	40.16	34.68	0.000156	0.000765	7.06	7.06	7.07	7.07	7.09	7.09
0.100	36.12	34.19	0.000326	0.000944	6.93	6.93	6.94	6.94	6.96	6.96
0.100	32.82	33.87	0.000316	0.000737	6.84	6.84	6.85	6.85	6.87	6.87
0.100	30.07	33.66	0.000183	0.000804	6.79	6.79	6.79	6.79	6.81	6.81
0.100	25.76	33.51		0.000354		6.73		6.74		6.76
0.200	51.74	36.33		0.000116		7.45		7.47		7.51
0.200	48.26	36.23	0.000302	0.000583	7.27	7.27	7.29	7.29	7.35	7.35
0.200	45.22	35.67	0.000345	0.000746	7.12	7.12	7.13	7.13	7.16	7.16
0.200	43.16	34.87	0.000763	0.001366	6.98	6.32	6.94	6.94	6.98	6.98
0.200	36.12	34.36	0.000910	0.001536	6.80	6.80	6.82	6.82	6.86	6.86
0.200	32.82	34.32	0.000901	0.001531	6.72	6.72	6.73	6.73	6.77	6.77
0.200	30.07	33.80	0.000770	0.001393	6.66	6.66	6.68	6.68	6.70	6.70
0.200	25.76	33.62	0.000294	0.000914	6.60	6.60	6.60	6.60	6.62	6.62
0.200	22.53	33.66		0.000335		6.53		6.59		6.61
0.300	51.74	7.14		0.000538		7.34		7.36		7.42
0.300	48.26	36.42	0.000432	0.001024	7.15	7.15	7.17	7.17	7.20	7.20
0.300	45.22	35.85	0.000773	0.001378	7.01	7.01	7.04	7.04	7.08	7.08
0.300	40.16	35.03	0.001169	0.001791	6.83	6.83	6.85	6.85	6.90	6.90
0.300	36.12	34.49	0.001307	0.001938	6.71	6.71	6.73	6.73	6.78	6.78
0.300	32.82	34.14	0.001273	0.001907	6.63	6.63	6.65	6.65	6.69	6.69
0.300	30.07	33.92	0.001115	0.001748	6.58	6.58	6.59	6.59	6.63	6.63
0.300	25.76	33.72	0.000571	0.001195	6.52	6.52	6.53	6.53	6.55	6.55
0.300	22.53	33.75		0.000543		6.51		6.52		6.54
0.400	55.75	38.26		0.000187		7.48		7.50		7.55
0.400	51.74	37.31	0.000293	0.000372	7.24	7.24	7.25	7.25	7.28	7.28
0.400	48.26	36.58	0.000752	0.001358	7.06	7.06	7.08	7.08	7.13	7.13
0.400	45.22	36.00	0.001049	0.001709	6.93	6.93	6.96	6.96	7.01	7.01
0.400	40.16	35.15	0.001471	0.002097	6.75	6.75	6.78	6.78	6.83	6.83
0.400	36.12	34.51	0.001576	0.002210	6.64	6.64	6.67	6.67	6.71	6.71
0.400	32.82	34.25	0.001506	0.002142	6.56	6.56	6.59	6.59	6.63	6.63
0.400	30.07	34.02	0.001313	0.001947	6.51	6.51	6.53	6.53	6.57	6.57
0.400	25.76	33.81	0.000689	0.001312	6.46	6.46	6.47	6.47	6.49	6.49

0.95% ^{235}U (continued)

DIAMETER OF RODS(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.400	22.53	33.34		0.000582		6.46		6.47		6.50
0.600	55.75	38.56	0.000115	0.000675	7.33	7.33	7.34	7.34	7.36	7.36
0.600	51.74	37.59	0.000773	0.001357	7.09	7.09	7.11	7.11	7.16	7.16
0.600	48.26	36.83	0.001230	0.001830	6.92	6.92	6.95	6.95	7.01	7.01
0.600	45.22	36.23	0.001536	0.002148	6.80	6.80	6.83	6.83	6.89	6.89
0.600	40.16	35.37	0.001838	0.002465	6.63	6.63	6.67	6.67	6.72	6.72
0.600	36.12	34.80	0.001859	0.002493	6.53	6.53	6.56	6.56	6.61	6.61
0.600	32.82	34.42	0.001701	0.002336	6.46	6.46	6.49	6.49	6.53	6.53
0.600	30.37	34.18	0.001429	0.002061	6.42	6.42	6.44	6.44	6.48	6.48
0.600	25.76	33.99	0.000630	0.001247	6.38	6.38	6.39	6.39	6.41	6.41
0.600	22.53	34.03		0.000351		6.39		6.40		6.42
0.800	60.45	40.09		0.000041		7.53		7.55		7.59
0.800	55.75	38.79	0.000447	0.001009	7.19	7.19	7.21	7.21	7.26	7.26
0.800	51.74	37.80	0.001086	0.001671	6.97	6.97	7.00	7.00	7.06	7.06
0.800	48.26	37.03	0.001512	0.002113	6.81	6.81	6.85	6.85	6.91	6.91
0.800	45.22	36.41	0.001785	0.002398	6.70	6.70	6.73	6.73	6.80	6.80
0.800	40.16	35.52	0.001997	0.002624	6.54	6.54	6.58	6.58	6.64	6.64
0.800	36.12	34.94	0.001920	0.002551	6.44	6.44	6.47	6.47	6.53	6.53
0.800	32.82	34.56	0.001660	0.002289	6.38	6.38	6.41	6.41	6.45	6.45
0.800	30.37	34.33	0.001274	0.001897	6.34	6.34	6.36	6.36	6.40	6.40
0.800	25.76	34.16	0.000280	0.000894	6.32	6.32	6.33	6.33	6.34	6.34
1.000	60.45	40.30		0.000291		7.41		7.44		7.49
1.000	55.75	38.98	0.000682	0.001245	7.09	7.09	7.11	7.11	7.17	7.17
1.000	51.74	37.97	0.001293	0.001878	6.87	6.87	6.91	6.91	6.97	6.97
1.000	48.26	37.18	0.001679	0.002279	6.72	6.72	6.76	6.76	6.83	6.83
1.000	45.22	36.55	0.001907	0.002518	6.61	6.61	6.65	6.65	6.72	6.72
1.000	40.16	35.65	0.002016	0.002638	6.46	6.46	6.50	6.50	6.56	6.56
1.000	36.12	35.06	0.001825	0.002450	6.37	6.37	6.40	6.40	6.45	6.45
1.000	32.82	34.69	0.001452	0.002073	6.31	6.31	6.34	6.34	6.38	6.38
1.000	30.37	34.47	0.000934	0.001567	6.28	6.28	6.30	6.30	6.33	6.33
1.000	25.76	34.35		0.000345		6.29		6.30		6.33
1.200	60.45	40.48		0.000480		7.31		7.34		7.40
1.200	55.75	39.14	0.000846	0.001408	6.99	6.99	7.03	7.03	7.08	7.08
1.200	51.74	38.11	0.001418	0.002002	6.79	6.79	6.83	6.83	6.89	6.89
1.200	48.26	37.31	0.001758	0.002356	6.64	6.64	6.68	6.68	6.75	6.75
1.200	45.22	36.67	0.001933	0.002541	6.53	6.53	6.57	6.57	6.64	6.64
1.200	40.16	35.75	0.001925	0.002542	6.39	6.39	6.42	6.42	6.48	6.48
1.200	36.12	35.17	0.001612	0.002228	6.30	6.30	6.33	6.33	6.38	6.38
1.200	32.82	34.81	0.001115	0.001725	6.26	6.26	6.28	6.28	6.31	6.31
1.200	30.37	34.61	0.000501	0.001100	6.24	6.24	6.25	6.25	6.27	6.27
1.200	60.45	40.70	0.000167	0.000677	7.18	7.18	7.20	7.20	7.23	7.23
1.500	55.75	39.33	0.000991	0.001551	6.87	6.87	6.91	6.91	6.97	6.97
1.500	51.74	38.27	0.001493	0.002073	6.67	6.67	6.71	6.71	6.78	6.78
1.500	48.26	37.45	0.001750	0.002343	6.53	6.53	6.57	6.57	6.64	6.64
1.500	45.22	36.80	0.001833	0.002434	6.43	6.43	6.47	6.47	6.53	6.53
1.500	40.16	35.88	0.001626	0.002234	6.29	6.29	6.33	6.33	6.38	6.38
1.500	36.12	35.32	0.001115	0.001716	6.22	6.22	6.24	6.24	6.28	6.28
1.500	32.82	34.93	0.000425	0.001016	6.19	6.19	6.20	6.20	6.22	6.22
1.500	30.37	34.84		0.000209		6.20		6.21		6.23

1.08% ^{235}U

DIAMETER OF RODS(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	58.82	36.45		0.000112		7.81		7.82		7.86
0.	54.87	35.71		0.000539		7.62		7.64		7.69
0.	51.41	35.13	0.000240	0.000849	7.47	7.47	7.48	7.48	7.51	7.51
0.	45.66	34.30	0.000577	0.001203	7.27	7.27	7.29	7.29	7.32	7.32
0.	41.07	33.75	0.000704	0.001338	7.14	7.14	7.16	7.16	7.19	7.19
0.	37.31	33.40	0.000694	0.001332	7.05	7.05	7.07	7.07	7.09	7.09
0.	34.19	33.17	0.000586	0.001225	6.99	6.99	7.00	7.00	7.02	7.02
0.	29.28	32.97	0.000176	0.000808	6.92	6.92	6.92	6.92	6.93	6.93
0.	25.61	32.98		0.000317		6.89		6.90		6.91
0.100	58.82	36.55		0.000528		7.62		7.65		7.71
0.100	54.87	35.84	0.000452	0.001056	7.42	7.42	7.44	7.44	7.47	7.47
0.100	51.41	35.27	0.000844	0.001462	7.27	7.27	7.29	7.29	7.34	7.34
0.100	45.66	34.47	0.001348	0.001986	7.06	7.06	7.09	7.09	7.14	7.14
0.100	41.07	33.94	0.001609	0.002258	6.92	6.92	6.95	6.95	6.99	6.99
0.100	37.31	33.58	0.001674	0.002328	6.83	6.83	6.85	6.85	6.90	6.90
0.100	34.19	33.34	0.001601	0.002256	6.76	6.76	6.79	6.79	6.82	6.82
0.100	29.28	33.11	0.001249	0.001899	6.68	6.68	6.69	6.69	6.72	6.72
0.100	25.61	33.09	0.000803	0.001444	6.63	6.63	6.64	6.64	6.66	6.66
0.200	63.38	37.73		0.000366		7.73		7.76		7.81
0.200	58.82	36.80	0.000509	0.001102	7.47	7.47	7.49	7.49	7.53	7.53
0.200	54.87	36.07	0.001038	0.001650	7.28	7.28	7.31	7.31	7.36	7.36
0.200	51.41	35.50	0.001446	0.002073	7.13	7.13	7.17	7.17	7.23	7.23
0.200	45.66	34.67	0.001963	0.002609	6.93	6.93	6.97	6.97	7.03	7.03
0.200	41.07	34.12	0.002217	0.002875	6.80	6.80	6.83	6.83	6.89	6.89
0.200	37.31	33.75	0.002284	0.002947	6.71	6.71	6.74	6.74	6.79	6.79
0.200	34.19	33.50	0.002216	0.002880	6.65	6.65	6.67	6.67	6.72	6.72
0.200	29.28	33.25	0.001831	0.002490	6.56	6.56	6.59	6.59	6.62	6.62
0.200	25.61	33.21	0.001324	0.001972	6.52	6.52	6.54	6.54	6.56	6.56
0.300	63.38	37.95	0.000209	0.000783	7.61	7.61	7.63	7.63	7.66	7.66
0.300	58.82	37.00	0.000936	0.001534	7.35	7.35	7.38	7.38	7.44	7.44

1.08 % ^{235}U (continued)

DIAMETER OF RODS(CM)	AVE U235 DEN(G/CC)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.300	54.87	39.27	0.001485	0.002597	7.17	7.17	7.21	7.21	7.27	7.27
0.300	51.41	35.68	0.001888	0.002514	7.03	7.03	7.07	7.07	7.14	7.14
0.300	45.66	34.83	0.002397	0.003048	6.84	6.84	6.88	6.88	6.95	6.95
0.300	41.07	34.27	0.002629	0.003291	6.71	6.71	6.75	6.75	6.81	6.81
0.300	37.31	33.88	0.002872	0.003339	6.63	6.63	6.66	6.66	6.71	6.71
0.300	34.17	33.63	0.002577	0.003245	6.56	6.56	6.59	6.59	6.64	6.64
0.300	29.23	33.36	0.002121	0.002783	6.49	6.49	6.51	6.51	6.55	6.55
0.300	25.61	33.32	0.001539	0.002188	6.45	6.45	6.47	6.47	6.49	6.49
0.400	68.72	39.43		0.000069		7.88		7.90		7.94
0.400	63.38	38.14	0.000534	0.001111	7.51	7.51	7.53	7.53	7.58	7.58
0.400	58.82	37.18	0.001278	0.001379	7.26	7.26	7.30	7.30	7.36	7.36
0.400	54.87	36.43	0.001820	0.002441	7.09	7.09	7.13	7.13	7.20	7.20
0.400	51.41	35.84	0.002224	0.002859	6.95	6.95	7.00	7.00	7.07	7.07
0.400	45.66	34.97	0.002710	0.003364	6.77	6.77	6.81	6.81	6.88	6.88
0.400	41.07	34.39	0.002908	0.003572	6.64	6.64	6.68	6.68	6.75	6.75
0.400	37.31	34.00	0.002914	0.003583	6.56	6.56	6.60	6.60	6.65	6.65
0.400	34.17	33.73	0.002780	0.003450	6.50	6.50	6.53	6.53	6.58	6.58
0.400	29.23	33.46	0.002241	0.002902	6.43	6.43	6.46	6.46	6.49	6.49
0.400	25.61	33.42	0.001376	0.002224	6.40	6.40	6.42	6.42	6.44	6.44
0.600	68.72	39.72		0.000544		7.70		7.74		7.80
0.600	63.38	38.44	0.001027	0.001608	7.35	7.35	7.39	7.39	7.45	7.45
0.600	58.82	37.46	0.001766	0.002372	7.12	7.12	7.16	7.16	7.24	7.24
0.600	54.87	36.69	0.002296	0.002921	6.95	6.95	7.00	7.00	7.08	7.08
0.600	51.41	36.08	0.002673	0.003312	6.83	6.83	6.87	6.87	6.95	6.95
0.600	45.66	35.19	0.003087	0.003743	6.65	6.65	6.69	6.69	6.77	6.77
0.600	41.07	34.59	0.003198	0.003863	6.53	6.53	6.57	6.57	6.64	6.64
0.600	37.31	34.18	0.003111	0.003778	6.46	6.46	6.49	6.49	6.55	6.55
0.600	34.17	33.91	0.002881	0.003547	6.40	6.40	6.44	6.44	6.49	6.49
0.600	29.23	33.65	0.002150	0.002904	6.35	6.35	6.37	6.37	6.41	6.41
0.600	25.61	33.62	0.001305	0.001941	6.33	6.33	6.34	6.34	6.37	6.37
0.800	68.72	39.98	0.000339	0.000888	7.57	7.57	7.59	7.59	7.63	7.63
0.800	63.38	38.68	0.001367	0.001950	7.23	7.23	7.27	7.27	7.34	7.34
0.800	58.82	37.69	0.002090	0.002698	7.01	7.01	7.05	7.05	7.13	7.13
0.800	54.87	36.89	0.002590	0.003215	6.84	6.84	6.89	6.89	6.98	6.98
0.800	51.41	36.27	0.002929	0.003567	6.72	6.72	6.77	6.77	6.85	6.85
0.800	45.66	35.35	0.003231	0.003905	6.55	6.55	6.60	6.60	6.68	6.68
0.800	41.07	34.74	0.003257	0.003919	6.45	6.45	6.49	6.49	6.55	6.55
0.800	37.31	34.33	0.003061	0.003723	6.37	6.37	6.41	6.41	6.47	6.47
0.800	34.17	34.06	0.002721	0.003379	6.33	6.33	6.36	6.36	6.41	6.41
0.800	29.23	33.82	0.001780	0.002421	6.28	6.28	6.30	6.30	6.34	6.34
0.800	25.61	33.84	0.000742	0.001361	6.28	6.28	6.29	6.29	6.31	6.31
1.000	68.72	40.20	0.000599	0.001157	7.45	7.45	7.48	7.48	7.53	7.53
1.000	63.38	38.87	0.001613	0.002206	7.13	7.13	7.17	7.17	7.25	7.25
1.000	58.82	37.85	0.002308	0.002925	6.91	6.91	6.96	6.96	7.04	7.04
1.000	54.87	37.05	0.002767	0.003401	6.75	6.75	6.80	6.80	6.89	6.89
1.000	51.41	36.41	0.003060	0.003707	6.63	6.63	6.68	6.68	6.77	6.77
1.000	45.66	35.49	0.003273	0.003934	6.47	6.47	6.52	6.52	6.59	6.59
1.000	41.07	34.86	0.003162	0.003827	6.37	6.37	6.41	6.41	6.48	6.48
1.000	37.31	34.46	0.002844	0.003506	6.30	6.30	6.34	6.34	6.40	6.40
1.000	34.17	34.20	0.002383	0.003039	6.26	6.26	6.29	6.29	6.34	6.34
1.000	29.23	34.00	0.001215	0.001849	6.23	6.23	6.25	6.25	6.28	6.28
1.000	25.61	34.09		0.000572		6.26		6.27		6.30
1.200	68.72	40.37	0.000785	0.001335	7.35	7.35	7.38	7.38	7.44	7.44
1.200	63.38	39.03	0.001775	0.002358	7.03	7.03	7.08	7.08	7.16	7.16
1.200	58.82	37.99	0.002429	0.003035	6.82	6.82	6.87	6.87	6.96	6.96
1.200	54.87	37.18	0.002841	0.003463	6.67	6.67	6.72	6.72	6.81	6.81
1.200	51.41	36.53	0.003078	0.003712	6.55	6.55	6.60	6.60	6.69	6.69
1.200	45.66	35.58	0.003156	0.003813	6.40	6.40	6.44	6.44	6.52	6.52
1.200	41.07	34.97	0.002926	0.003570	6.30	6.30	6.34	6.34	6.40	6.40
1.200	37.31	34.58	0.002473	0.003114	6.24	6.24	6.27	6.27	6.33	6.33
1.200	34.17	34.34	0.001885	0.002517	6.21	6.21	6.23	6.23	6.28	6.28
1.200	29.23	34.20	0.000487	0.001091	6.20	6.20	6.21	6.21	6.22	6.22
1.500	75.03	42.42		0.000650		7.72		7.74		7.78
1.500	68.72	40.60	0.000986	0.001534	7.21	7.21	7.25	7.25	7.32	7.32
1.500	63.38	39.22	0.001922	0.002502	6.91	6.91	6.96	6.96	7.05	7.05
1.500	58.82	38.16	0.002505	0.003107	6.70	6.70	6.75	6.75	6.85	6.85
1.500	54.87	37.32	0.002830	0.003447	6.55	6.55	6.61	6.61	6.69	6.69
1.500	51.41	36.66	0.002972	0.003598	6.44	6.44	6.49	6.49	6.58	6.58
1.500	45.66	35.72	0.002853	0.003436	6.30	6.30	6.34	6.34	6.41	6.41
1.500	41.07	35.12	0.002395	0.003024	6.21	6.21	6.24	6.24	6.30	6.30
1.500	37.31	34.76	0.001733	0.002353	6.16	6.16	6.19	6.19	6.23	6.23
1.500	34.17	34.56	0.000949	0.001565	6.14	6.14	6.16	6.16	6.19	6.19

1.17 % ^{235}U

DIAMETER OF RODS(CM)	AVE U235 DEN(G/CC)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	68.67	37.31		0.000029		8.10		8.11		8.15
0.	63.72	36.35	0.000090	0.000683	7.84	7.84	7.84	7.84	7.86	7.86
0.	59.44	35.60	0.000543	0.001154	7.62	7.62	7.64	7.64	7.68	7.68
0.	55.67	35.01	0.000876	0.001500	7.48	7.48	7.50	7.50	7.55	7.55
0.	49.47	34.16	0.001279	0.001921	7.28	7.28	7.30	7.30	7.35	7.35
0.	44.49	33.59	0.001460	0.002112	7.19	7.19	7.17	7.17	7.21	7.21
0.	40.42	33.21	0.001435	0.002153	7.05	7.05	7.07	7.07	7.11	7.11
0.	37.04	32.97	0.001420	0.002384	6.95	6.98	7.00	7.00	7.04	7.04
0.	31.72	32.72	0.001371	0.001729	6.87	6.89	6.91	6.91	6.93	6.93

1.17% ^{235}U (continued)

DIAMETER OF ROD(IN)	[illegible]	[illegible]	[illegible]	[illegible]	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
0.	27.74	32.5[illegible]	[illegible]	[illegible]	[illegible]	6.3[illegible]	6.83	6.85	6.87	6.87
0.100	68.67	37.33		0.000384		7.90		7.93		7.99
0.100	63.72	35.45	[illegible]	[illegible]	7.6[illegible]	7.63	7.56	7.66	7.70	7.70
0.100	59.44	35.73	0.001[illegible]	0.001583	7.43	7.43	7.46	7.46	7.52	7.52
0.100	55.69	35.16	0.001497	0.002131	7.28	7.28	7.31	7.31	7.38	7.38
0.100	49.47	34.34	0.002070	0.002725	7.07	7.07	7.10	7.10	7.17	7.17
0.100	44.49	33.73	0.002391	0.003058	6.92	6.92	6.96	6.96	7.02	7.02
0.100	40.42	33.41	0.002504	0.003178	6.83	6.83	6.86	6.86	6.91	6.91
0.100	37.04	33.15	0.002472	0.003147	6.75	6.76	6.79	5.79	6.84	6.84
0.100	31.72	32.89	0.002184	0.002857	6.67	6.67	6.69	6.69	6.73	6.73
0.100	27.74	32.83	0.001784	0.002450	6.61	6.61	6.63	6.63	6.66	6.66
0.200	68.67	37.65	0.000331	0.000912	7.73	7.75	7.77	7.77	7.81	7.81
0.200	63.72	36.70	0.001089	0.001696	7.48	7.48	7.52	7.52	7.58	7.58
0.200	59.44	35.37	0.001663	0.002289	7.30	7.30	7.33	7.33	7.40	7.40
0.200	55.69	35.39	0.002111	0.002753	7.15	7.15	7.19	7.19	7.26	7.26
0.200	49.47	34.55	0.002698	0.003361	6.95	6.95	6.99	6.99	7.06	7.06
0.200	44.49	33.98	0.003014	0.003690	6.81	6.81	6.85	6.85	6.91	6.91
0.200	40.42	33.59	0.003131	0.003813	6.71	6.71	6.75	6.75	6.81	6.81
0.200	37.04	33.32	0.003103	0.003789	6.65	6.65	6.68	6.68	6.73	6.73
0.200	31.72	33.04	0.002783	0.003465	6.56	6.56	5.58	6.58	6.62	6.62
0.200	27.74	32.96	0.002322	0.002996	6.50	6.50	6.52	6.52	6.56	6.56
0.300	74.43	39.13		0.000262		8.00		8.03		8.08
0.300	68.67	37.87	0.000747	0.001334	7.63	7.63	7.66	7.66	7.72	7.72
0.300	63.72	36.92	0.001523	0.002135	7.38	7.38	7.42	7.42	7.49	7.49
0.300	59.44	36.17	0.002111	0.002743	7.19	7.19	7.24	7.24	7.31	7.31
0.300	55.69	35.58	0.002560	0.003207	7.05	7.05	7.10	7.10	7.18	7.18
0.300	49.47	34.72	0.003142	0.003810	6.86	6.86	6.90	6.90	6.97	6.97
0.300	44.49	34.13	0.003434	0.004114	6.72	6.72	6.76	6.76	6.83	6.83
0.300	40.42	33.73	0.003527	0.004214	6.63	6.63	6.67	6.67	6.73	6.73
0.300	37.04	33.46	0.003472	0.004162	6.56	6.56	6.60	6.60	6.65	6.65
0.300	31.72	33.16	0.003080	0.003765	6.48	6.48	6.51	6.51	6.55	6.55
0.300	27.74	33.08	0.002540	0.003214	6.43	6.43	6.46	6.46	6.49	6.49
0.400	74.45	39.32	0.000014	0.000569	7.90	7.90	7.94	7.94	8.00	8.00
0.400	68.67	38.06	0.001076	0.001665	7.53	7.53	7.57	7.57	7.64	7.64
0.400	63.72	37.07	0.001870	0.002485	7.29	7.29	7.33	7.33	7.41	7.41
0.400	59.44	36.34	0.002457	0.003092	7.11	7.11	7.16	7.16	7.24	7.24
0.400	55.69	35.74	0.002902	0.003553	6.97	6.97	7.02	7.02	7.10	7.10
0.400	49.47	34.96	0.003460	0.004131	6.78	6.78	6.83	6.83	6.91	6.91
0.400	44.49	34.26	0.003718	0.004401	6.65	6.65	6.70	6.70	6.77	6.77
0.400	40.42	33.85	0.003774	0.004463	6.56	6.56	6.60	6.60	6.67	6.67
0.400	37.04	33.57	0.003681	0.004371	6.50	6.50	6.54	6.54	6.59	6.59
0.400	31.72	33.27	0.003201	0.003885	6.42	6.42	6.45	6.45	6.50	6.50
0.400	27.74	33.18	0.002575	0.003247	6.38	6.38	6.41	6.41	6.44	6.44
0.600	74.44	39.64	0.000489	0.001048	7.73	7.73	7.75	7.75	7.80	7.80
0.600	68.67	38.36	0.001573	0.002169	7.38	7.38	7.42	7.42	7.50	7.50
0.600	63.72	37.38	0.002365	0.002985	7.15	7.15	7.20	7.20	7.28	7.28
0.600	59.44	36.60	0.002940	0.003579	6.97	6.97	7.03	7.03	7.12	7.12
0.600	55.69	35.98	0.003359	0.004013	6.84	6.84	6.90	6.90	6.99	6.99
0.600	49.47	35.07	0.003844	0.004517	6.66	6.66	6.71	6.71	6.79	6.79
0.600	44.49	34.46	0.004013	0.004696	6.54	6.54	6.59	6.59	6.66	6.66
0.600	40.42	34.04	0.003972	0.004660	6.46	6.46	6.50	6.50	6.57	6.57
0.600	37.04	33.76	0.003780	0.004466	6.40	6.40	6.44	6.44	6.50	6.50
0.600	31.72	33.45	0.003099	0.003776	6.33	6.33	6.36	6.36	6.41	6.41
0.600	27.74	33.39	0.002282	0.002942	6.31	6.31	6.33	6.33	6.36	6.36
0.800	74.44	39.90	0.000835	0.001396	7.59	7.59	7.63	7.63	7.69	7.69
0.800	68.67	38.60	0.001920	0.002515	7.26	7.26	7.31	7.31	7.40	7.40
0.800	63.72	37.59	0.002693	0.003314	7.03	7.03	7.09	7.09	7.18	7.18
0.800	59.44	36.80	0.003237	0.003878	6.87	6.87	6.92	6.92	7.02	7.02
0.800	55.69	36.17	0.003618	0.004272	6.74	6.74	6.80	6.80	6.89	6.89
0.800	49.47	35.24	0.004008	0.004680	6.57	6.57	6.62	6.62	6.70	6.70
0.800	44.49	34.61	0.004071	0.004751	6.45	6.45	6.50	6.50	6.57	6.57
0.800	40.42	34.19	0.003917	0.004598	6.37	6.37	6.42	6.42	6.48	6.48
0.800	37.04	33.91	0.003609	0.004288	6.32	6.32	6.36	6.36	6.42	6.42
0.800	31.72	33.63	0.002707	0.003370	6.27	6.27	5.29	6.29	6.34	6.34
0.800	27.74	33.61	0.001685	0.002327	6.25	6.25	6.27	6.27	6.30	6.30
1.000	31.29	41.89		0.000079		8.01		8.03		8.08
1.000	74.44	40.12	0.001091	0.001652	7.48	7.48	7.52	7.52	7.59	7.59
1.000	68.67	38.79	0.002162	0.002758	7.15	7.15	7.21	7.21	7.30	7.30
1.000	63.72	37.77	0.002907	0.003528	6.93	6.93	6.99	6.99	7.09	7.09
1.000	59.44	36.96	0.003411	0.004050	6.77	6.77	6.83	6.83	6.93	6.93
1.000	55.69	36.32	0.003743	0.004395	6.65	6.65	6.71	6.71	6.80	6.80
1.000	49.47	35.37	0.004021	0.004689	6.48	6.48	6.53	6.53	5.62	6.62
1.000	44.49	34.74	0.003960	0.004634	6.37	6.37	6.42	6.42	6.49	6.49
1.000	40.42	34.32	0.003679	0.004351	6.30	6.30	6.34	6.34	6.41	6.41
1.000	37.04	34.05	0.003246	0.003912	6.26	6.26	6.29	6.29	6.35	6.35
1.000	31.72	33.81	0.002104	0.002750	6.21	6.21	6.24	6.24	6.28	6.28
1.000	27.74	33.85	0.000872	0.001491	6.21	6.21	6.23	6.23	6.25	6.25
1.200	81.29	42.09		0.000275		7.89		7.92		7.98
1.200	74.44	40.30	0.001286	0.001847	7.38	7.38	7.42	7.42	7.50	7.50
1.200	68.67	38.75	0.002331	0.002926	7.06	7.06	7.12	7.12	7.21	7.21
1.200	63.72	37.91	0.003036	0.003656	6.85	6.85	6.90	6.90	7.00	7.00
1.200	59.44	37.09	0.003492	0.004129	6.69	6.69	6.75	6.75	6.84	6.84
1.200	55.69	36.43	0.003767	0.004416	6.57	6.57	6.63	6.63	6.72	6.72
1.200	49.47	35.48	0.003919	0.004581	6.41	6.41	6.46	6.46	6.54	6.54
1.200	44.49	34.85	0.003721	0.004385	6.30	6.30	6.35	6.35	6.42	6.42
1.200	40.42	34.44	0.003302	0.003962	6.24	6.24	6.27	6.27	6.34	6.34
1.200	37.04	34.19	0.002733	0.003385	6.20	6.20	6.23	6.23	6.28	6.28
1.200	31.72	34.01	0.001347	0.001971	6.17	6.17	6.19	6.19	6.22	6.22
1.200	27.74	34.13		0.000505		6.21		6.22		6.24
1.500	81.29	42.34		0.000500		7.75		7.78		7.86

1.17% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
1.000	76.30	[illegible]	[illegible]	[illegible]	7.24	7.24	7.27	7.29	7.38	7.38
1.000	70.80	[illegible]	[illegible]	[illegible]	6.94	6.94	6.99	6.99	7.09	7.09
1.000	66.04	36.27	0.003412	0.003723	6.72	6.72	6.73	6.78	6.88	6.88
1.000	59.44	37.24	0.003480	0.004111	6.57	6.57	6.63	6.63	6.73	6.73
1.000	55.37	[illegible]	0.003937	0.004279	6.46	6.46	6.51	6.51	6.60	6.60
1.000	49.47	39.61	0.003393	0.004243	6.30	6.30	6.35	6.35	6.43	6.43
1.000	44.49	39.00	0.003171	0.003818	6.21	6.21	6.23	6.25	6.32	6.32
1.000	40.42	34.62	0.002591	0.003169	6.15	6.15	6.18	6.18	6.24	6.24
1.000	37.06	34.41	0.002755	0.003383	6.12	6.12	6.15	6.15	6.19	6.19
1.000	31.72	34.34	0.000013	0.000602	6.15	6.15	6.16	6.16	6.19	6.19

1.30% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	76.30	37.19	0.000109	0.000695	8.15	8.15	8.15	8.15	8.17	8.17
0.	70.80	36.22	0.000799	0.001409	7.85	7.85	7.88	7.88	7.93	7.93
0.	66.04	35.46	0.001305	0.001934	7.65	7.65	7.68	7.68	7.75	7.75
0.	61.88	34.86	0.001686	0.002329	7.50	7.50	7.54	7.54	7.60	7.60
0.	54.96	33.98	0.002174	0.002838	7.30	7.30	7.33	7.33	7.40	7.40
0.	49.43	33.39	0.002428	0.003104	7.16	7.16	7.19	7.19	7.25	7.25
0.	44.91	32.99	0.002527	0.003210	7.06	7.06	7.09	7.09	7.14	7.14
0.	41.15	32.72	0.002510	0.003196	6.98	6.98	7.01	7.01	7.06	7.06
0.	35.25	32.42	0.002241	0.002926	6.88	6.88	6.91	6.91	6.94	6.94
0.	30.83	32.34	0.001862	0.002540	6.82	6.82	6.84	6.84	6.87	6.87
0.100	82.72	38.53		0.000025		8.34		8.35		8.39
0.100	76.30	37.26	0.000480	0.001071	7.93	7.93	7.96	7.96	8.00	8.00
0.100	70.80	36.33	0.001239	0.001856	7.66	7.66	7.70	7.70	7.76	7.76
0.100	66.04	35.60	0.001847	0.002484	7.46	7.46	7.50	7.50	7.58	7.58
0.100	61.88	35.02	0.002330	0.002984	7.31	7.31	7.35	7.35	7.43	7.43
0.100	54.96	34.18	0.002994	0.003670	7.09	7.09	7.13	7.13	7.21	7.21
0.100	49.43	33.61	0.003393	0.004084	6.94	6.94	6.98	6.98	7.05	7.05
0.100	44.91	33.21	0.003573	0.004273	6.84	6.84	6.87	6.87	6.94	6.94
0.100	41.15	32.93	0.003599	0.004302	6.76	6.76	6.80	6.80	6.85	6.85
0.100	35.25	32.62	0.003399	0.004102	6.66	6.66	6.69	6.69	6.73	6.73
0.100	30.83	32.52	0.003069	0.003767	6.60	6.60	6.62	6.62	6.66	6.66
0.200	82.72	38.78		0.000516		8.17		8.20		8.27
0.200	76.30	37.53	0.001007	0.001605	7.78	7.78	7.82	7.82	7.89	7.89
0.200	70.80	36.58	0.001926	0.002450	7.52	7.52	7.56	7.56	7.65	7.65
0.200	66.04	35.84	0.002456	0.003101	7.33	7.33	7.38	7.38	7.46	7.46
0.200	61.88	35.25	0.002957	0.003618	7.18	7.18	7.23	7.23	7.31	7.31
0.200	54.96	34.39	0.003637	0.004322	6.97	6.97	7.02	7.02	7.10	7.10
0.200	49.43	33.81	0.004332	0.004731	6.82	6.82	6.87	6.87	6.94	6.94
0.200	44.91	33.40	0.004217	0.004925	6.72	6.72	6.77	6.77	6.83	6.83
0.200	41.15	33.11	0.004248	0.004960	6.65	6.65	6.69	6.69	6.75	6.75
0.200	35.25	32.78	0.004018	0.004730	6.55	6.55	6.58	6.58	6.63	6.63
0.200	30.83	32.66	0.003626	0.004332	6.49	6.49	6.52	6.52	6.56	6.56
0.300	82.72	39.01	0.000329	0.000896	8.05	8.05	8.07	8.07	8.11	8.11
0.300	76.30	37.75	0.001430	0.002032	7.67	7.67	7.71	7.71	7.79	7.79
0.300	70.80	36.79	0.002267	0.002896	7.41	7.41	7.46	7.46	7.55	7.55
0.300	66.04	36.04	0.002913	0.003563	7.23	7.23	7.28	7.28	7.37	7.37
0.300	61.88	35.45	0.003414	0.004081	7.08	7.08	7.14	7.14	7.23	7.23
0.300	54.96	34.56	0.004091	0.004781	6.88	6.88	6.93	6.93	7.01	7.01
0.300	49.43	33.96	0.004463	0.005167	6.74	6.74	6.79	6.79	6.86	6.86
0.300	44.91	33.55	0.004624	0.005337	6.64	6.64	6.68	6.68	6.75	6.75
0.300	41.15	33.25	0.004628	0.005345	6.57	6.57	6.61	6.61	6.67	6.67
0.300	35.25	32.92	0.004323	0.005038	6.47	6.47	6.51	6.51	6.56	6.56
0.300	30.83	32.79	0.003849	0.004555	6.42	6.42	6.45	6.45	6.49	6.49
0.400	82.72	39.21	0.000637	0.001206	7.94	7.94	7.97	7.97	8.03	8.03
0.400	76.30	37.94	0.001764	0.002369	7.57	7.57	7.62	7.62	7.71	7.71
0.400	70.80	36.97	0.002619	0.003252	7.33	7.33	7.38	7.38	7.47	7.47
0.400	66.04	36.21	0.003265	0.003919	7.14	7.14	7.20	7.20	7.29	7.29
0.400	61.88	35.60	0.003764	0.004435	7.00	7.00	7.06	7.06	7.15	7.15
0.400	54.96	34.71	0.004416	0.005110	6.80	6.80	6.86	6.86	6.94	6.94
0.400	49.43	34.10	0.004754	0.005461	6.67	6.67	6.72	6.72	6.80	6.80
0.400	44.91	33.67	0.004878	0.005592	6.57	6.57	6.62	6.62	6.69	6.69
0.400	41.15	33.37	0.004841	0.005558	6.50	6.50	6.55	6.55	6.61	6.61
0.400	35.25	33.03	0.004445	0.005159	6.42	6.42	6.45	6.45	6.50	6.50
0.400	30.83	32.90	0.003880	0.004584	6.37	6.37	6.40	6.40	6.44	6.44
0.600	90.32	41.27		0.000083		8.33		8.35		8.40
0.600	82.72	39.53	0.001116	0.001689	7.77	7.77	7.81	7.81	7.89	7.89
0.600	76.30	38.24	0.002269	0.002878	7.42	7.42	7.48	7.48	7.57	7.57
0.600	70.80	37.25	0.003122	0.003760	7.18	7.18	7.24	7.24	7.34	7.34
0.600	66.04	36.48	0.003757	0.004414	7.01	7.01	7.07	7.07	7.17	7.17
0.600	61.88	35.85	0.004229	0.004903	6.87	6.87	6.93	6.93	7.03	7.03
0.600	54.96	34.93	0.004807	0.005502	6.68	6.68	6.74	6.74	6.83	6.83
0.600	49.43	34.30	0.005053	0.005760	6.55	6.55	6.61	6.61	6.69	6.69
0.600	44.91	33.86	0.005076	0.005789	6.47	6.47	6.51	6.51	6.59	6.59
0.600	41.15	33.56	0.004935	0.005649	6.40	6.40	6.45	6.45	6.51	6.51
0.600	35.25	33.22	0.004328	0.005034	6.33	6.33	6.36	6.36	6.41	6.41
0.600	30.83	33.11	0.003557	0.004248	6.29	6.29	6.32	6.32	6.36	6.36
0.800	90.32	41.54		0.000401		8.17		8.21		8.28
0.800	82.72	39.78	0.001464	0.002040	7.63	7.63	7.68	7.68	7.77	7.77
0.800	76.30	38.48	0.002617	0.003229	7.30	7.30	7.36	7.36	7.46	7.46
0.800	70.80	37.47	0.003456	0.004095	7.07	7.07	7.13	7.13	7.24	7.24

1.30% ^{235}U (continued)

DIAMETER OF RODS(IN)	[illegible]	[illegible]	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.300	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.90	6.96	6.96	7.07	7.07
0.300	[illegible]	[illegible]	[illegible]	[illegible]	6.77	6.77	6.83	6.83	6.93	6.93
0.300	54.75	33.13	0.004773	0.005667	6.58	6.58	6.64	6.64	6.73	6.73
0.300	49.41	34.46	0.005109	0.005413	6.46	6.46	6.51	6.51	6.60	6.60
0.300	44.71	34.32	0.005314	0.005723	6.38	6.38	6.43	6.43	6.50	6.50
0.800	41.15	33.72	0.004731	0.005456	6.32	6.32	6.36	6.36	6.43	6.43
0.300	35.25	33.43	0.003108	0.004499	6.23	6.25	6.29	6.29	6.34	6.34
0.800	33.33	33.33	0.002916	0.003587	6.23	6.23	6.25	6.25	6.29	6.29
1.000	90.32	41.77	0.000125	0.000652	8.07	8.07	8.08	8.08	8.11	8.11
1.000	82.72	40.00	0.001723	0.002299	7.52	7.52	7.57	7.57	7.67	7.67
1.000	76.30	38.67	0.002864	0.003476	7.20	7.20	7.26	7.26	7.37	7.37
1.000	70.80	37.65	0.003673	0.004311	6.97	6.97	7.03	7.03	7.14	7.14
1.000	66.04	36.84	0.004235	0.004792	6.80	6.80	6.87	6.87	6.97	6.97
1.000	61.88	36.19	0.004620	0.005292	6.68	6.68	6.74	6.74	6.84	6.84
1.000	54.76	35.23	0.004985	0.005675	6.50	6.50	6.56	6.56	6.65	6.65
1.000	49.43	34.58	0.004792	0.005688	6.36	6.38	6.43	6.43	6.52	6.52
1.000	44.71	34.15	0.004762	0.005459	6.30	6.30	6.35	6.35	6.42	6.42
1.000	41.15	33.86	0.004366	0.005058	6.25	6.25	6.29	6.29	6.36	6.36
1.000	35.25	33.58	0.003265	0.004338	6.20	6.20	6.23	6.23	6.27	6.27
1.000	30.83	33.57	0.002044	0.002692	6.16	6.18	6.20	6.20	6.24	6.24
1.200	90.32	41.96	0.000322	0.000949	7.94	7.94	7.96	7.96	8.01	8.01
1.200	82.72	40.17	0.001720	0.002496	7.42	7.42	7.48	7.48	7.58	7.58
1.200	76.30	38.83	0.003035	0.003646	7.10	7.10	7.17	7.17	7.28	7.28
1.200	70.80	37.79	0.003804	0.004441	6.88	6.88	6.95	6.95	7.06	7.06
1.200	66.04	36.97	0.004317	0.004972	6.72	6.72	6.78	6.78	6.89	6.89
1.200	61.88	36.31	0.004643	0.005311	6.59	6.59	6.65	6.65	6.76	6.76
1.200	54.76	35.34	0.004876	0.005559	6.42	6.42	6.48	6.48	6.57	6.57
1.200	49.43	34.70	0.004740	0.005427	6.31	6.31	6.36	6.36	6.44	6.44
1.200	44.71	34.27	0.004365	0.005049	6.23	6.23	6.28	6.28	6.35	6.35
1.200	41.15	34.00	0.003325	0.004501	6.19	6.19	6.23	6.23	6.29	6.29
1.200	35.25	33.77	0.002460	0.003111	6.15	6.15	6.17	6.17	6.21	6.21
1.200	30.83	33.84	0.001015	0.001834	6.15	6.15	6.17	6.17	6.19	6.19
1.500	90.32	42.21	0.000348	0.001074	7.79	7.79	7.82	7.82	7.88	7.88
1.500	82.72	40.39	0.002123	0.002697	7.29	7.29	7.34	7.34	7.45	7.45
1.500	76.30	39.02	0.003185	0.003794	6.97	6.97	7.04	7.04	7.15	7.15
1.500	70.80	37.95	0.003873	0.004509	6.75	6.75	6.82	6.82	6.93	6.93
1.500	66.04	37.11	0.004297	0.004947	6.59	6.59	6.66	6.66	6.77	6.77
1.500	61.88	36.45	0.004620	0.005180	6.47	6.47	6.54	6.54	6.64	6.64
1.500	54.76	35.48	0.004527	0.005197	6.31	6.31	6.36	6.36	6.45	6.45
1.500	49.43	34.85	0.004163	0.004833	6.21	6.21	6.25	6.25	6.33	6.33
1.500	44.71	34.45	0.003854	0.004216	6.14	6.14	6.18	6.18	6.25	6.25
1.500	41.15	34.22	0.002793	0.003441	6.11	6.11	6.14	6.14	6.19	6.19
1.500	35.25	34.10	0.001043	0.001656	6.09	6.09	6.11	6.11	6.14	6.14

1.50% ^{235}U

DIAMETER OF RODS(IN)	AVE U235 DENS(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	95.44	38.27		0.000493		8.59		8.62		8.69
0.	88.03	37.00	0.000952	0.001557	8.18	8.18	8.21	8.21	8.28	8.28
0.	81.69	36.03	0.001712	0.002344	7.90	7.90	7.94	7.94	8.02	8.02
0.	76.20	35.26	0.002286	0.002939	7.70	7.70	7.75	7.75	7.83	7.83
0.	71.40	34.65	0.002731	0.003399	7.55	7.55	7.60	7.60	7.68	7.68
0.	63.42	33.75	0.003334	0.004026	7.33	7.33	7.38	7.38	7.45	7.45
0.	57.04	33.14	0.003687	0.004393	7.18	7.18	7.23	7.23	7.30	7.30
0.	51.82	32.71	0.003875	0.004591	7.08	7.08	7.11	7.11	7.18	7.18
0.	47.48	32.41	0.003935	0.004656	6.99	6.99	7.03	7.03	7.09	7.09
0.	40.67	32.36	0.003790	0.004512	6.88	6.88	6.91	6.91	6.96	6.96
0.	35.57	31.91	0.003509	0.004228	6.81	6.81	6.84	6.84	6.87	6.87
0.100	95.44	38.36	0.000257	0.000832	8.39	8.39	8.41	8.41	8.44	8.44
0.100	88.03	37.08	0.001344	0.001956	7.98	7.98	8.02	8.02	8.10	8.10
0.100	81.69	36.15	0.002175	0.002814	7.71	7.71	7.76	7.76	7.85	7.85
0.100	76.20	35.41	0.002853	0.003516	7.51	7.51	7.56	7.56	7.65	7.65
0.100	71.40	34.82	0.003405	0.004083	7.35	7.35	7.40	7.40	7.50	7.50
0.100	63.42	33.96	0.004191	0.004895	7.12	7.12	7.17	7.17	7.26	7.26
0.100	57.04	33.37	0.004694	0.005416	6.96	6.96	7.01	7.01	7.09	7.09
0.100	51.82	32.95	0.004969	0.005701	6.85	6.85	6.90	6.90	6.97	6.97
0.100	47.48	32.64	0.005074	0.005813	6.77	6.77	6.82	6.82	6.88	6.88
0.100	40.67	32.29	0.005007	0.005749	6.66	6.66	6.70	6.70	6.75	6.75
0.100	35.57	32.14	0.004781	0.005520	6.58	6.58	6.62	6.62	6.66	6.66
0.200	95.44	38.61	0.000749	0.001331	8.22	8.22	8.25	8.25	8.32	8.32
0.200	88.03	37.35	0.001879	0.002497	7.84	7.84	7.89	7.89	7.98	7.98
0.200	81.69	36.40	0.002775	0.003422	7.57	7.57	7.63	7.63	7.73	7.73
0.200	76.20	35.65	0.003477	0.004146	7.38	7.38	7.44	7.44	7.54	7.54
0.200	71.40	35.06	0.004047	0.004734	7.22	7.22	7.28	7.28	7.38	7.38
0.200	63.42	34.19	0.004851	0.005564	7.00	7.00	7.06	7.06	7.15	7.15
0.200	57.04	33.57	0.005354	0.006085	6.85	6.85	6.90	6.90	6.99	6.99
0.200	51.82	33.15	0.005635	0.006376	6.74	6.74	6.79	6.79	6.87	6.87
0.200	47.48	32.84	0.005748	0.006496	6.66	6.66	6.71	6.71	6.78	6.78
0.200	40.67	32.47	0.005651	0.006402	6.55	6.55	6.59	6.59	6.64	6.64
0.200	35.57	32.30	0.005362	0.006110	6.48	6.48	6.51	6.51	6.56	6.56
0.300	104.21	40.58		0.000138		8.67		8.70		8.75
0.300	95.44	38.83	0.001127	0.001713	8.09	8.09	8.14	8.14	8.22	8.22
0.300	88.03	37.57	0.002303	0.002932	7.73	7.73	7.78	7.78	7.88	7.88
0.300	81.69	36.61	0.003224	0.003876	7.47	7.47	7.53	7.53	7.64	7.64
0.300	76.20	35.86	0.003944	0.004618	7.28	7.28	7.34	7.34	7.44	7.44

1.50% ^{235}U (continued)

DIAMETER OF ROD(CM)	AVE U235 DENS(G/L)	H/U RATIO AREA, M2	U235 (GM/CM) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
0.300	[illegible]	33.25	[illegible]	0.003208	7.13	7.13	7.19	7.19	7.29	7.29
0.300	63.42	34.35	0.005317	0.006036	6.91	6.91	6.97	6.97	7.07	7.07
0.300	57.04	33.74	0.005793	0.006533	6.76	6.76	6.82	6.82	6.90	5.90
0.300	51.32	33.33	[illegible]	[illegible]	6.66	6.66	6.71	6.71	6.79	5.79
0.300	47.41	32.99	0.005137	0.006371	6.58	6.58	6.63	6.63	6.70	6.70
0.300	40.67	32.61	0.005765	0.006718	6.47	6.47	6.51	6.51	6.57	6.57
0.300	35.57	32.44	0.005590	0.006338	6.41	6.41	6.44	6.44	6.49	6.49
0.400	104.21	40.77		0.000400		8.56		8.60		8.67
0.400	95.44	39.03	0.001438	0.002026	7.99	7.99	8.04	8.04	8.13	8.13
0.400	88.03	37.76	0.002647	0.003273	7.63	7.63	7.69	7.69	7.80	7.80
0.400	81.67	36.77	0.003583	0.004238	7.38	7.38	7.44	7.44	7.56	7.56
0.400	76.20	36.03	0.004304	0.004982	7.19	7.19	7.26	7.26	7.37	7.37
0.400	71.40	35.41	0.004873	0.005570	7.05	7.05	7.11	7.11	7.22	7.22
0.400	63.42	34.50	0.005652	0.006374	6.84	6.84	6.90	6.90	6.99	6.99
0.400	57.04	33.87	0.006097	0.006835	6.69	6.69	6.75	6.75	6.84	6.84
0.400	51.82	33.43	0.006315	0.007063	6.59	6.59	6.64	6.64	6.72	6.72
0.400	47.48	33.11	0.006358	0.007110	6.51	6.51	6.56	6.56	6.64	6.64
0.400	40.67	32.73	0.006088	0.006840	6.41	6.41	6.46	6.46	6.51	6.51
0.400	35.57	32.56	0.005615	0.006360	6.35	6.35	6.39	6.39	6.44	6.44
0.600	104.21	41.08	0.000282	0.000823	8.39	8.39	8.41	8.41	8.45	8.45
0.600	95.44	39.34	0.001922	0.002515	7.83	7.83	7.89	7.89	7.99	7.99
0.600	88.03	38.06	0.003160	0.003791	7.48	7.48	7.55	7.55	7.66	7.66
0.600	81.63	37.07	0.004095	0.004755	7.24	7.24	7.31	7.31	7.42	7.42
0.600	76.20	36.29	0.004805	0.005487	7.06	7.06	7.12	7.12	7.24	7.24
0.600	71.40	35.66	0.005347	0.006047	6.91	6.91	6.98	6.98	7.09	7.09
0.600	63.42	34.73	0.006051	0.006774	6.71	6.71	6.78	6.78	5.88	6.88
0.600	57.04	34.08	0.006401	0.007139	6.58	6.58	6.64	6.64	6.73	6.73
0.600	51.82	33.63	0.006514	0.007260	6.48	6.48	6.53	6.53	6.62	6.62
0.600	47.48	33.31	0.006446	0.007194	6.41	6.41	6.46	6.46	6.53	6.53
0.600	40.67	32.93	0.005948	0.006691	6.32	6.32	6.36	6.36	6.42	6.42
0.600	35.57	32.77	0.005252	0.005983	6.27	6.27	6.31	6.31	6.35	6.35
0.800	104.21	41.35	0.000598	0.001142	8.23	8.23	8.27	8.27	8.33	8.33
0.800	95.44	39.59	0.002275	0.002870	7.70	7.70	7.76	7.76	7.87	7.87
0.800	88.03	38.30	0.003514	0.004147	7.36	7.36	7.43	7.43	7.55	7.55
0.800	81.69	37.29	0.004435	0.005096	7.12	7.12	7.19	7.19	7.31	7.31
0.800	76.20	36.49	0.005113	0.005796	6.94	6.94	7.01	7.01	7.13	7.13
0.800	71.40	35.85	0.005617	0.006317	6.81	6.81	6.88	6.88	6.99	6.99
0.800	63.42	34.90	0.006220	0.006942	6.61	6.61	6.68	6.68	6.78	6.78
0.800	57.04	34.24	0.006454	0.007188	6.48	6.48	6.54	6.54	6.63	6.63
0.800	51.82	33.79	0.006441	0.007180	6.39	6.39	6.44	6.44	6.53	6.53
0.800	47.48	33.47	0.006245	0.006983	6.32	6.32	6.37	6.37	6.45	6.45
0.800	40.67	33.11	0.005491	0.006219	6.24	6.24	6.29	6.29	6.34	6.34
0.800	35.57	32.99	0.004549	0.005260	6.21	6.21	6.24	6.24	6.29	6.29
1.000	104.21	41.57	0.000850	0.001394	8.10	8.10	8.14	8.14	8.22	8.22
1.000	95.44	39.80	0.002535	0.003131	7.59	7.59	7.65	7.65	7.77	7.77
1.000	88.03	38.49	0.003764	0.004397	7.25	7.25	7.33	7.33	7.45	7.45
1.000	81.69	37.46	0.004655	0.005317	7.02	7.02	7.09	7.09	7.22	7.22
1.000	76.20	36.65	0.005293	0.005975	6.85	6.85	6.92	6.92	7.04	7.04
1.000	71.40	36.00	0.005746	0.006444	6.71	6.71	6.78	6.78	6.90	6.90
1.000	63.42	35.03	0.006228	0.006946	6.52	6.52	6.59	6.59	6.69	6.69
1.000	57.04	34.37	0.006327	0.007054	6.40	6.40	6.46	6.46	6.55	6.55
1.000	51.82	33.92	0.006171	0.006900	6.31	6.31	6.36	6.36	6.44	6.44
1.000	47.48	33.61	0.005830	0.006556	6.25	6.25	6.30	6.30	6.37	6.37
1.000	40.67	33.29	0.004796	0.005504	6.18	6.18	6.22	6.22	6.27	6.27
1.000	35.57	33.22	0.003600	0.004284	6.15	6.15	6.18	6.18	6.23	6.23
1.200	104.21	41.76	0.001047	0.001591	7.99	7.99	8.04	8.04	8.13	8.13
1.200	95.44	39.98	0.002734	0.003330	7.48	7.48	7.55	7.55	7.67	7.67
1.200	88.03	38.64	0.003937	0.004570	7.16	7.16	7.23	7.23	7.36	7.36
1.200	81.69	37.61	0.004789	0.005448	6.93	6.93	7.00	7.00	7.13	7.13
1.200	76.20	36.78	0.005375	0.006054	6.76	6.76	6.83	6.83	6.95	6.95
1.200	71.40	36.12	0.005768	0.006462	6.63	6.63	6.70	6.70	6.81	6.81
1.200	63.42	35.14	0.006113	0.006824	6.44	6.44	6.51	6.51	6.61	6.61
1.200	57.04	34.49	0.006059	0.006776	6.32	6.32	6.38	6.38	6.47	6.47
1.200	51.82	34.04	0.005748	0.006463	6.24	6.24	6.29	6.29	6.37	6.37
1.200	47.48	33.75	0.005251	0.005960	6.18	6.18	6.23	6.23	6.30	6.30
1.200	40.67	33.48	0.003927	0.004612	6.12	6.12	6.16	6.16	6.21	6.21
1.200	35.57	33.49	0.003025	0.003690	6.11	6.11	6.14	6.14	6.17	6.17
1.500	104.21	42.00	0.001274	0.001817	7.84	7.84	7.90	7.90	7.99	7.99
1.500	95.44	40.19	0.002937	0.003531	7.34	7.34	7.42	7.42	7.54	7.54
1.500	88.03	38.83	0.004087	0.004717	7.02	7.02	7.10	7.10	7.23	7.23
1.500	81.69	37.77	0.004860	0.005515	6.80	6.80	6.87	6.87	7.00	7.00
1.500	76.20	36.93	0.005351	0.006025	6.63	6.63	6.70	6.70	6.83	6.83
1.500	71.40	36.26	0.005636	0.006322	6.50	6.50	6.57	6.57	6.69	6.69
1.500	63.42	35.28	0.005740	0.006438	6.32	6.32	6.39	6.39	6.49	6.49
1.500	57.04	34.64	0.005433	0.006132	6.21	6.21	6.27	6.27	6.35	6.35
1.500	51.82	34.23	0.004867	0.005558	6.14	6.14	6.19	6.19	6.26	6.26
1.500	47.48	33.97	0.004149	0.004828	6.09	6.09	6.13	6.13	6.20	6.20
1.500	40.67	33.80	0.002399	0.003044	6.06	6.06	6.09	6.09	6.13	6.13

2.00% ^{235}U

DIAMETER OF ROD(CM)	[illegible]	[illegible]	[illegible] CRITICAL	[illegible] SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.	[illegible]	[illegible]	[illegible]	0.003727	8.02	8.04	8.08	8.11	8.19	8.23
0.	95.25	34.22	0.004527	0.005237	7.66	7.68	7.72	7.75	7.83	7.87
0.	84.56	33.27	0.005445	0.006197	7.43	7.45	7.49	7.52	7.59	7.62
0.	76.05	32.65	0.006213	0.006775	7.26	7.29	7.32	7.35	7.41	7.44
0.	69.10	32.13	0.006347	0.007122	7.14	7.17	7.19	7.22	7.27	7.31
0.	63.31	31.85	0.006517	0.007294	7.05	7.07	7.10	7.13	7.17	7.20
0.	58.42	31.61	0.006568	0.007353	6.97	7.00	7.02	7.05	7.08	7.11
0.	54.23	31.43	0.006535	0.007321	6.91	6.94	6.95	6.98	7.01	7.04
0.	50.60	31.29	0.006439	0.007224	6.86	6.89	6.90	6.93	6.95	6.98
0.	47.43	31.20	0.006299	0.007081	6.82	6.84	6.86	6.88	6.90	6.93
0.	42.14	31.11	0.005923	0.006676	6.75	6.78	6.78	6.81	6.82	6.85
0.	37.91	31.09	0.005476	0.006238	6.71	6.73	6.73	6.76	6.77	6.79
0.	34.46	31.13	0.004986	0.005737	6.67	6.69	6.70	6.72	6.72	6.75
0.	31.58	31.21	0.004485	0.005223	6.65	6.67	6.67	6.69	6.69	6.72
0.	27.06	31.45	0.003467	0.004180	6.62	6.64	6.63	6.66	6.65	6.68
0.	23.67	31.76	0.002474	0.003162	6.61	6.63	6.62	6.64	6.63	6.66
0.050	108.92	35.57	0.003242	0.003906	7.90	7.92	7.96	7.99	8.08	8.12
0.050	95.20	34.26	0.004841	0.005557	7.53	7.56	7.60	7.63	7.71	7.75
0.050	84.56	33.38	0.005928	0.006673	7.29	7.31	7.35	7.38	7.46	7.50
0.050	76.05	32.77	0.006661	0.007435	7.11	7.14	7.17	7.20	7.27	7.30
0.050	69.10	32.32	0.007051	0.007838	6.99	7.02	7.05	7.08	7.13	7.17
0.050	63.31	31.99	0.007232	0.008026	6.90	6.93	6.96	6.99	7.03	7.07
0.050	58.42	31.75	0.007310	0.008108	6.83	6.85	6.88	6.91	6.95	6.98
0.050	54.23	31.57	0.007308	0.008106	6.77	6.79	6.81	6.84	6.88	6.91
0.050	50.60	31.45	0.007244	0.008042	6.72	6.74	6.76	6.79	6.82	6.85
0.050	47.43	31.36	0.007134	0.007930	6.67	6.70	6.71	6.74	6.76	6.79
0.050	42.14	31.27	0.006809	0.007597	6.60	6.63	6.64	6.67	6.68	6.71
0.050	37.91	31.25	0.006402	0.007181	6.55	6.58	6.59	6.61	6.62	6.65
0.050	34.46	31.29	0.005938	0.006705	6.52	6.54	6.55	6.57	6.58	6.60
0.050	31.58	31.36	0.005433	0.006188	6.49	6.52	6.52	6.54	6.55	6.57
0.050	27.06	31.58	0.004403	0.005132	6.46	6.49	6.48	6.51	6.50	6.53
0.050	23.67	31.87	0.003388	0.004092	6.45	6.48	6.47	6.49	6.49	6.51
0.100	108.92	35.73	0.003630	0.004299	7.82	7.84	7.89	7.92	8.01	8.05
0.100	95.20	34.39	0.005314	0.006038	7.45	7.48	7.52	7.55	7.64	7.68
0.100	84.56	33.51	0.006428	0.007187	7.21	7.24	7.28	7.31	7.38	7.42
0.100	76.05	32.90	0.007160	0.007942	7.04	7.07	7.10	7.13	7.20	7.24
0.100	69.10	32.45	0.007589	0.008384	6.92	6.94	6.98	7.01	7.06	7.10
0.100	63.31	32.12	0.007811	0.008614	6.82	6.85	6.88	6.91	6.96	6.99
0.100	58.42	31.88	0.007906	0.008713	6.75	6.78	6.80	6.83	6.87	6.91
0.100	54.23	31.70	0.007916	0.008724	6.69	6.71	6.74	6.77	6.80	6.83
0.100	50.60	31.58	0.007853	0.008661	6.64	6.66	6.68	6.71	6.74	6.77
0.100	47.43	31.49	0.007739	0.008545	6.59	6.62	6.64	6.66	6.69	6.72
0.100	42.14	31.39	0.007395	0.008192	6.53	6.55	6.56	6.59	6.61	6.64
0.100	37.91	31.37	0.006957	0.007744	6.48	6.50	6.51	6.54	6.55	6.58
0.100	34.46	31.40	0.006460	0.007235	6.44	6.47	6.47	6.50	6.51	6.53
0.100	31.58	31.47	0.005936	0.006699	6.42	6.44	6.45	6.47	6.48	6.50
0.100	27.06	31.68	0.004849	0.005585	6.39	6.42	6.42	6.44	6.44	6.46
0.100	23.67	31.98	0.003772	0.004482	6.39	6.41	6.40	6.43	6.42	6.45
0.200	108.92	35.97	0.004296	0.004975	7.68	7.71	7.76	7.79	7.89	7.93
0.200	95.20	34.63	0.006037	0.006771	7.33	7.35	7.40	7.43	7.52	7.56
0.200	84.56	33.74	0.007178	0.007948	7.09	7.12	7.16	7.20	7.27	7.31
0.200	76.05	33.12	0.007914	0.008707	6.93	6.96	6.99	7.03	7.09	7.13
0.200	69.10	32.66	0.008354	0.009161	6.81	6.83	6.87	6.90	6.96	6.99
0.200	63.31	32.33	0.008585	0.009400	6.71	6.74	6.77	6.80	6.85	6.89
0.200	58.42	32.09	0.008674	0.009493	6.64	6.67	6.69	6.72	6.77	6.80
0.200	54.23	31.91	0.008661	0.009481	6.58	6.61	6.63	6.66	6.70	6.73
0.200	50.60	31.77	0.008569	0.009388	6.53	6.56	6.58	6.61	6.64	6.67
0.200	47.43	31.68	0.008420	0.009235	6.49	6.52	6.53	6.56	6.59	6.62
0.200	42.14	31.58	0.007995	0.008801	6.43	6.45	6.47	6.50	6.51	6.54
0.200	37.91	31.55	0.007472	0.008266	6.39	6.41	6.42	6.45	6.46	6.49
0.200	34.46	31.58	0.006891	0.007671	6.36	6.38	6.39	6.41	6.42	6.45
0.200	31.58	31.65	0.006285	0.007051	6.34	6.36	6.36	6.39	6.40	6.42
0.200	27.06	31.86	0.005051	0.005788	6.32	6.34	6.34	6.36	6.36	6.39
0.200	23.67	32.15	0.003838	0.004546	6.32	6.34	6.34	6.36	6.36	6.38
0.300	108.92	36.18	0.004808	0.005495	7.58	7.61	7.66	7.69	7.79	7.84
0.300	95.20	34.93	0.006578	0.007321	7.23	7.26	7.31	7.34	7.43	7.47
0.300	84.56	33.92	0.007725	0.008503	7.00	7.03	7.08	7.11	7.19	7.23
0.300	76.05	33.29	0.008441	0.009242	6.84	6.87	6.91	6.94	7.01	7.05
0.300	69.10	32.83	0.008857	0.009672	6.72	6.75	6.79	6.82	6.88	6.92
0.300	63.31	32.49	0.009061	0.009882	6.63	6.66	6.69	6.72	6.78	6.81
0.300	58.42	32.24	0.009111	0.009935	6.56	6.59	6.62	6.65	6.69	6.73
0.300	54.23	32.06	0.009054	0.009879	6.50	6.53	6.56	6.59	6.62	6.66
0.300	50.60	31.92	0.008915	0.009737	6.46	6.48	6.51	6.54	6.57	6.60
0.300	47.43	31.83	0.008716	0.009534	6.42	6.45	6.47	6.49	6.52	6.55
0.300	42.14	31.72	0.008132	0.008999	6.36	6.39	6.40	6.43	6.45	6.48
0.300	37.91	31.70	0.007571	0.008364	6.32	6.35	6.36	6.39	6.40	6.43
0.300	34.46	31.73	0.006895	0.007672	6.30	6.32	6.33	6.36	6.37	6.40
0.300	31.58	31.81	0.006203	0.006964	6.28	6.31	6.31	6.34	6.34	6.37
0.300	27.06	32.04	0.004811	0.005539	6.28	6.30	6.30	6.32	6.32	6.35
0.300	23.67	32.36	0.003464	0.004160	6.29	6.31	6.30	6.32	6.32	6.35
0.400	108.92	36.35	0.005227	0.005921	7.49	7.52	7.57	7.61	7.71	7.76
0.400	95.20	34.99	0.007033	0.007752	7.15	7.18	7.23	7.26	7.36	7.40
0.400	84.56	34.07	0.008129	0.008913	6.93	6.96	7.00	7.03	7.12	7.16
0.400	76.05	33.42	0.008810	0.009616	6.77	6.80	6.84	6.87	6.94	6.98
0.400	69.10	32.96	0.009184	0.010003	6.65	6.68	6.72	6.75	6.81	6.85
0.400	63.31	32.62	0.009340	0.010165	6.57	6.59	6.63	6.66	6.71	6.75
0.400	58.42	32.37	0.009338	0.010164	6.50	6.53	6.55	6.59	6.63	6.66
0.400	54.23	32.18	0.009225	0.010050	6.44	6.47	6.50	6.53	6.57	6.60
0.400	50.60	32.05	0.009029	0.009851	6.40	6.43	6.45	6.48	6.51	6.54
0.400	47.43	31.96	0.008772	0.009589	6.36	6.39	6.41	6.44	6.47	6.50

2.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
0.400	47.14	[illegible]	[illegible]	[illegible]	6.31	6.34	6.35	6.38	6.40	6.44
0.400	[illegible]	[illegible]	[illegible]	[illegible]	6.28	6.30	6.31	6.34	6.36	6.39
0.400	34.45	[illegible]	[illegible]	0.007429	6.26	6.28	6.29	6.32	6.33	6.35
0.400	31.59	31.97	0.005878	0.006630	6.25	6.27	6.28	6.30	6.31	6.33
0.400	27.06	32.24	[illegible]	[illegible]	6.25	6.27	6.27	6.29	6.29	6.32
0.400	23.67	32.60	0.002346	0.003729	6.27	6.29	6.28	6.30	6.30	6.32
0.600	108.32	36.53	0.005962	0.006564	7.35	7.38	7.44	7.47	7.58	7.63
0.600	95.20	35.23	0.007615	0.008372	7.02	7.05	7.10	7.14	7.23	7.29
0.600	84.55	34.30	0.008570	0.009461	6.80	6.83	6.88	6.92	7.00	7.04
0.600	76.05	33.64	0.009254	0.010065	6.65	6.68	6.73	6.76	6.83	6.87
0.600	69.10	33.17	0.009518	0.010339	6.54	6.57	6.61	6.64	6.71	6.74
0.600	63.31	32.32	0.009553	0.010379	6.46	6.49	6.52	6.55	6.61	6.64
0.600	58.42	32.57	0.009424	0.010249	6.40	6.42	6.45	6.49	6.53	6.57
0.600	54.23	32.39	0.009183	0.010003	6.35	6.37	6.40	6.43	6.47	6.50
0.600	50.60	32.27	0.008857	0.009672	6.31	6.33	6.36	6.39	6.42	6.45
0.600	47.43	32.18	0.008474	0.009280	6.27	6.30	6.32	6.35	6.38	6.41
0.600	42.14	32.11	0.007592	0.008378	6.23	6.26	6.27	6.30	6.32	6.35
0.600	37.91	32.13	0.006534	0.007400	6.21	6.23	6.24	6.27	6.29	6.31
0.600	34.46	32.71	0.005647	0.006370	6.20	6.22	6.23	6.25	6.26	6.29
0.600	31.59	32.35	0.004571	0.005390	6.20	6.22	6.22	6.25	6.25	6.28
0.600	27.06	37.73	0.002790	0.003464	6.22	6.24	6.23	6.26	6.26	6.28
0.600	23.67	33.24	0.001057	0.001688	6.26	6.28	6.27	6.29	6.28	6.30
0.800	108.32	36.34	0.006319	0.007028	7.24	7.27	7.33	7.36	7.47	7.52
0.800	95.20	35.42	0.008010	0.008772	6.91	6.94	7.00	7.03	7.13	7.17
0.800	84.56	34.47	0.008964	0.009758	6.70	6.73	6.78	6.82	6.90	6.94
0.800	76.05	33.90	0.009426	0.010237	6.56	6.58	6.63	6.66	6.74	6.78
0.800	69.10	33.33	0.009551	0.010370	6.45	6.48	6.52	6.55	6.62	6.65
0.800	63.31	32.99	0.009440	0.010260	6.37	6.40	6.43	6.47	6.52	6.56
0.800	58.42	32.75	0.009152	0.009978	6.31	6.34	6.37	6.40	6.45	6.48
0.800	54.23	32.58	0.008772	0.009581	6.26	6.29	6.32	6.35	6.39	6.42
0.800	50.60	32.47	0.008300	0.009099	6.23	6.25	6.28	6.31	6.34	6.38
0.800	47.43	32.40	0.007775	0.008563	6.20	6.23	6.25	6.28	6.31	6.34
0.800	42.14	32.37	0.006525	0.007387	6.17	6.19	6.21	6.23	6.26	6.29
0.800	37.91	32.44	0.005424	0.006159	6.16	6.18	6.19	6.21	6.23	6.26
0.800	34.46	32.59	0.004223	0.004930	6.16	6.18	6.18	6.21	6.22	6.24
0.800	31.59	32.80	0.003060	0.003739	6.17	6.19	6.19	6.21	6.22	6.24
0.800	27.06	33.36	0.000889	0.001513	6.22	6.23	6.23	6.25	6.24	6.26

3.00% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	SAFE	REFL SAV(CM)-SPH CRITICAL	SAFE	REFL SAV(CM)-CYL CRITICAL	SAFE	REFL SAV(CM)-SLAB CRITICAL	SAFE
0.	142.91	33.52	0.006910	0.007683	7.81	7.84	7.89	7.92	8.03	8.07
0.	114.08	31.76	0.008905	0.009741	7.39	7.42	7.46	7.49	7.57	7.60
0.	94.97	31.13	0.009848	0.010714	7.15	7.18	7.21	7.24	7.29	7.33
0.	81.34	30.66	0.010239	0.011117	7.00	7.02	7.05	7.08	7.11	7.14
0.	71.14	30.38	0.010322	0.011204	6.88	6.91	6.93	6.96	6.98	7.01
0.	63.21	30.22	0.010220	0.011100	6.80	6.82	6.84	6.87	6.88	6.91
0.	56.87	30.14	0.010011	0.010887	6.73	6.76	6.77	6.80	6.81	6.84
0.	51.68	30.11	0.009726	0.010595	6.68	6.71	6.72	6.74	6.75	6.78
0.	47.37	30.12	0.009404	0.010266	6.64	6.67	6.67	6.70	6.70	6.73
0.	43.71	30.15	0.009046	0.009900	6.61	6.64	6.64	6.67	6.66	6.69
0.	40.59	30.21	0.008676	0.009521	6.59	6.61	6.61	6.64	6.63	6.66
0.	35.50	30.37	0.007837	0.008725	6.55	6.57	6.57	6.60	6.59	6.61
0.	31.55	30.56	0.007090	0.007898	6.53	6.55	6.55	6.57	6.56	6.58
0.	28.39	30.78	0.006270	0.007058	6.51	6.54	6.53	6.56	6.54	6.57
0.	25.81	31.03	0.005449	0.006217	6.51	6.53	6.52	6.55	6.53	6.55
0.	23.65	31.28	0.004631	0.005377	6.51	6.53	6.52	6.54	6.53	6.55
0.050	142.91	33.57	0.007302	0.008083	7.67	7.70	7.75	7.79	7.90	7.94
0.050	114.08	32.09	0.009646	0.010495	7.23	7.26	7.30	7.33	7.41	7.45
0.050	94.97	31.29	0.010655	0.011534	7.00	7.03	7.06	7.09	7.15	7.18
0.050	81.34	30.83	0.011107	0.011999	6.84	6.87	6.90	6.93	6.97	7.00
0.050	71.14	30.57	0.011259	0.012155	6.73	6.76	6.78	6.81	6.83	6.87
0.050	63.21	30.42	0.011214	0.012110	6.64	6.67	6.69	6.72	6.74	6.77
0.050	56.87	30.35	0.011050	0.011942	6.58	6.60	6.62	6.65	6.66	6.69
0.050	51.68	30.32	0.010797	0.011683	6.53	6.55	6.56	6.59	6.60	6.63
0.050	47.37	30.33	0.010476	0.011355	6.49	6.51	6.52	6.55	6.55	6.58
0.050	43.71	30.37	0.010118	0.010988	6.46	6.48	6.49	6.52	6.52	6.54
0.050	40.59	30.42	0.009743	0.010605	6.43	6.46	6.46	6.49	6.49	6.51
0.050	35.50	30.57	0.008952	0.009796	6.40	6.42	6.42	6.45	6.44	6.47
0.050	31.55	30.76	0.008114	0.008938	6.38	6.40	6.40	6.43	6.42	6.44
0.050	28.39	30.97	0.007258	0.008063	6.37	6.39	6.39	6.41	6.40	6.42
0.050	25.81	31.20	0.006412	0.007196	6.36	6.39	6.38	6.40	6.39	6.42
0.050	23.65	31.44	0.005553	0.006315	6.36	6.38	6.38	6.40	6.39	6.41
0.100	142.81	33.70	0.007793	0.008581	7.59	7.62	7.67	7.71	7.82	7.86
0.100	114.08	32.22	0.010167	0.011024	7.16	7.19	7.23	7.26	7.34	7.38
0.100	94.97	31.42	0.011271	0.012160	6.92	6.95	6.98	7.02	7.07	7.11
0.100	81.34	30.97	0.011759	0.012662	6.76	6.79	6.82	6.85	6.89	6.92
0.100	71.14	30.71	0.011910	0.012817	6.65	6.68	6.70	6.73	6.76	6.79
0.100	63.21	30.56	0.011849	0.012754	6.57	6.59	6.61	6.64	6.66	6.69
0.100	56.87	30.48	0.011656	0.012557	6.50	6.53	6.55	6.57	6.59	6.62
0.100	51.68	30.46	0.011369	0.012263	6.45	6.48	6.49	6.52	6.53	6.56
0.100	47.37	30.47	0.011027	0.011913	6.42	6.44	6.45	6.48	6.48	6.51
0.100	43.71	30.50	0.010640	0.011518	6.39	6.41	6.42	6.45	6.45	6.48

3.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING SAFE	REFL SAV(CM)-SPH CRITICAL	SPH SAFE	REFL SAV(CM)-CYL CRITICAL	CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	SLAB SAFE
0.100	40.59	30.56	0.010233	0.011102	6.36	6.39	6.40	6.42	6.42	6.45
0.100	35.50	30.71	[illegible]	[illegible]	6.33	6.36	6.36	6.39	6.38	6.41
0.100	31.55	30.94	[illegible]	0.009032	6.32	6.34	6.34	6.36	6.36	6.38
0.100	28.39	31.13	0.007362	0.008364	6.31	6.33	6.33	6.35	6.34	6.37
0.100	25.81	31.33	0.006643	0.007477	6.31	6.33	6.32	6.35	6.34	6.36
0.100	23.65	31.57	0.005739	0.006493	6.31	6.33	6.33	6.35	6.34	6.36
0.200	142.81	33.72	0.008537	0.009337	7.47	7.50	7.55	7.59	7.70	7.74
0.200	114.03	32.44	0.010758	0.011827	7.04	7.07	7.12	7.15	7.23	7.27
0.200	94.97	31.64	0.012330	0.012991	6.81	6.84	6.87	6.91	6.96	7.00
0.200	81.34	31.19	0.012553	0.013467	6.65	6.68	6.71	6.74	6.78	6.82
0.200	71.14	30.91	0.012638	0.013553	6.54	6.57	6.60	6.63	6.66	6.69
0.200	63.21	30.76	0.012438	0.013402	6.47	6.49	6.51	6.54	6.56	6.60
0.200	56.87	30.64	0.012200	0.013107	6.41	6.43	6.45	6.48	6.49	6.52
0.200	51.68	30.66	0.011815	0.012714	6.36	6.39	6.40	6.43	6.44	6.47
0.200	47.37	30.58	0.011373	0.012257	6.33	6.35	6.37	6.39	6.40	6.43
0.200	43.71	30.71	0.010899	0.011777	6.30	6.33	6.34	6.37	6.37	6.40
0.200	40.59	30.77	0.010404	0.011272	6.28	6.31	6.32	6.34	6.34	6.37
0.200	35.50	30.93	0.009370	0.010215	6.26	6.29	6.29	6.32	6.31	6.34
0.200	31.55	31.13	0.008315	0.009136	6.25	6.27	6.28	6.30	6.29	6.32
0.200	28.39	31.35	0.007261	0.008057	6.25	6.27	6.27	6.30	6.29	6.31
0.200	25.81	31.60	0.006219	0.006991	6.26	6.28	6.27	6.30	6.29	6.31
0.200	23.65	31.86	0.005198	0.005945	6.27	6.29	6.28	6.31	6.29	6.32
0.300	142.81	34.11	0.009096	0.009904	7.37	7.40	7.46	7.49	7.61	7.65
0.300	114.08	32.60	0.011506	0.012333	6.95	6.98	7.03	7.07	7.15	7.19
0.300	94.97	31.80	0.012585	0.013473	6.72	5.75	6.79	6.82	6.88	6.92
0.300	81.34	31.34	0.012956	0.013875	6.57	6.60	6.63	6.66	6.71	6.74
0.300	71.14	31.07	0.012929	0.013849	6.47	6.50	6.52	6.55	6.58	6.62
0.300	63.21	30.93	0.012663	0.013577	6.39	6.42	6.44	6.47	6.50	6.53
0.300	56.87	30.86	0.012256	0.013161	6.34	6.37	6.38	6.41	6.43	6.46
0.300	51.68	30.83	0.011781	0.012676	6.30	6.33	6.34	6.37	6.38	6.41
0.300	47.37	30.85	0.011236	0.012119	6.27	6.30	6.31	6.34	6.34	6.37
0.300	43.71	30.90	0.010653	0.011523	6.25	6.27	6.28	6.31	6.32	6.34
0.300	40.59	30.97	0.010058	0.010915	6.23	6.26	6.27	6.29	6.30	6.32
0.300	35.50	31.15	0.008842	0.009672	6.22	6.24	6.25	6.27	6.27	6.30
0.300	31.55	31.37	0.007626	0.008428	6.22	6.24	6.24	6.27	6.26	6.29
0.300	28.39	31.63	0.006431	0.007205	6.22	6.24	6.24	6.27	6.26	6.28
0.300	25.81	31.91	0.005269	0.006015	6.24	6.26	6.25	6.28	6.27	6.29
0.300	23.65	32.22	0.004142	0.004860	6.25	6.28	6.27	6.29	6.28	6.30
0.400	142.81	34.26	0.009538	0.010353	7.29	7.32	7.38	7.41	7.53	7.57
0.400	114.08	32.74	0.011897	0.012780	6.88	6.91	6.96	6.99	7.08	7.12
0.400	94.97	31.93	0.012884	0.013796	6.65	6.68	6.72	6.75	6.81	6.85
0.400	81.34	31.47	0.013136	0.014056	6.51	6.53	6.57	6.60	6.64	6.68
0.400	71.14	31.21	0.012979	0.013897	6.41	6.43	6.46	6.49	6.53	6.56
0.400	63.21	31.07	0.012580	0.013490	6.34	6.36	6.39	6.42	6.44	6.47
0.400	56.87	31.00	0.012044	0.012942	6.29	6.31	6.33	6.36	6.38	6.41
0.400	51.68	31.00	0.011418	0.012301	6.25	6.28	6.29	6.32	6.33	6.36
0.400	47.37	31.03	0.010752	0.011621	6.22	6.25	6.26	6.29	6.30	6.33
0.400	43.71	31.09	0.010053	0.010906	6.21	6.23	6.24	6.27	6.27	6.30
0.400	40.59	31.18	0.009350	0.010188	6.20	6.22	6.23	6.25	6.26	6.28
0.400	35.50	31.40	0.007938	0.008744	6.19	6.21	6.22	6.24	6.24	6.27
0.400	31.55	31.67	0.006556	0.007330	6.19	6.22	6.22	6.24	6.24	6.26
0.400	28.39	31.95	0.005301	0.006045	6.21	6.23	6.23	6.25	6.25	6.27
0.400	25.81	32.29	0.004022	0.004735	6.23	6.25	6.25	6.27	6.26	6.28
0.400	23.65	32.67	0.002802	0.003484	6.26	6.28	6.27	6.29	6.28	6.30
0.600	142.81	34.49	0.010174	0.010998	7.15	7.18	7.25	7.28	7.40	7.44
0.600	114.08	32.95	0.012363	0.013252	6.76	6.79	6.84	6.87	6.96	7.00
0.600	94.97	32.13	0.013098	0.014010	6.53	6.56	6.61	6.64	6.70	6.74
0.600	81.34	31.67	0.013058	0.013972	6.40	6.42	6.46	6.49	6.54	6.57
0.600	71.14	31.44	0.012598	0.013503	6.30	6.33	6.36	6.39	6.43	6.46
0.600	63.21	31.33	0.011898	0.012788	6.24	6.27	6.29	6.32	6.35	6.38
0.600	56.87	31.30	0.011072	0.011944	6.20	6.22	6.24	6.27	6.29	6.32
0.600	51.68	31.33	0.010171	0.011023	6.17	6.20	6.21	6.24	6.25	6.28
0.600	47.37	31.41	0.009248	0.010079	6.15	6.18	6.19	6.22	6.23	6.26
0.600	43.71	31.51	0.008312	0.009121	6.15	6.17	6.18	6.20	6.21	6.24
0.600	40.59	31.65	0.007389	0.008178	6.14	6.17	6.17	6.20	6.20	6.23
0.600	35.50	31.98	0.005594	0.006341	6.16	6.18	6.18	6.20	6.20	6.23
0.600	31.55	32.38	0.003901	0.004607	6.18	6.20	6.20	6.22	6.22	6.24
0.600	28.39	32.85	0.002322	0.002788	6.22	6.24	6.23	6.25	6.25	6.27
0.600	25.81	33.37	0.000864	0.001492	6.27	6.28	6.27	6.29	6.28	6.30
0.600	23.65	33.96		0.000117		6.34		6.34		6.34

5.00% ^{235}U

DIAMETER OF ROD(IN)	AVE U235 DEN(G/L)	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING SAFE	REFL SAV(CM)-SPH CRITICAL	SPH SAFE	REFL SAV(CM)-CYL CRITICAL	CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	SLAB SAFE
0.	190.13	30.99	0.011759	0.012675	7.56	7.59	7.64	7.67	7.75	7.79
0.	158.28	30.21	0.013130	0.014084	7.31	7.34	7.37	7.40	7.46	7.49
0.	135.57	29.74	0.013915	0.014888	7.14	7.16	7.19	7.22	7.26	7.29
0.	118.56	29.45	0.014365	0.015350	7.01	7.04	7.06	7.09	7.11	7.14
0.	105.35	29.27	0.014601	0.015592	6.91	6.94	6.95	6.98	7.00	7.03
0.	94.78	29.15	0.014702	0.015695	6.83	6.86	6.87	6.90	6.91	6.94
0.	78.94	29.05	0.014645	0.015638	6.72	6.74	6.75	6.78	6.77	6.80
0.	67.64	29.06	0.014388	0.015375	6.64	6.66	6.67	6.69	6.68	6.71
0.	59.17	29.13	0.014007	0.014986	6.58	6.60	6.60	6.63	6.61	6.64
0.	52.59	29.22	0.013536	0.014506	6.53	6.56	6.56	6.58	6.56	6.59
0.	47.32	29.35	0.012798	0.013756	6.50	6.52	6.52	6.55	6.53	6.55
0.	43.01	29.48	0.012411	0.013355	6.47	6.50	6.49	6.52	6.50	6.52
0.	36.39	29.78	0.011128	0.012041	6.44	6.46	6.46	6.48	6.46	6.48
0.	31.53	30.10	0.009796	0.010676	6.42	6.44	6.43	6.46	6.43	6.46
0.	27.82	30.42	0.008510	0.009357	6.41	6.43	6.42	6.45	6.42	6.44
0.	24.89	30.76	0.007301	0.008118	6.41	6.43	6.42	6.44	6.42	6.44

5.00% ^{235}U (continued)

DIAMETER OF ROD(IN)	AVE 235 CENT/CC	MIGRATION AREA, CM2	BUCKLING(CM**(-2)) CRITICAL	BUCKLING(CM**(-2)) SAFE	REFL SAV(CM)-SPH CRITICAL	REFL SAV(CM)-SPH SAFE	REFL SAV(CM)-CYL CRITICAL	REFL SAV(CM)-CYL SAFE	REFL SAV(CM)-SLAB CRITICAL	REFL SAV(CM)-SLAB SAFE
0.050	190.13	31.12	0.012641	0.013572	7.37	7.40	7.45	7.49	7.57	7.61
0.050	158.28	30.37	0.014071	0.015040	7.13	7.16	7.20	7.23	7.29	7.33
0.050	135.57	29.92	0.014914	0.015904	6.97	6.99	7.02	7.06	7.10	7.13
0.050	118.56	29.65	0.015433	0.016436	6.84	6.87	6.89	6.92	6.95	6.98
0.050	105.35	29.48	0.015728	0.016737	6.74	6.77	6.79	6.82	6.84	6.87
0.050	94.78	29.38	0.015872	0.016883	6.67	6.69	6.71	6.74	6.75	6.78
0.050	78.94	29.30	0.015849	0.016860	6.55	6.58	6.59	6.62	6.62	6.65
0.050	67.64	29.32	0.015586	0.016591	6.48	6.50	6.51	6.54	6.53	6.56
0.050	59.17	29.39	0.015194	0.016191	6.42	6.45	6.45	6.48	6.46	6.49
0.050	52.59	29.49	0.014692	0.015679	6.38	6.41	6.41	6.44	6.42	6.45
0.050	47.32	29.62	0.014118	0.015092	6.35	6.38	6.38	6.40	6.38	6.41
0.050	43.01	29.75	0.013503	0.014463	6.33	6.35	6.35	6.38	6.36	6.38
0.050	36.39	30.04	0.012148	0.013076	6.29	6.32	6.32	6.34	6.32	6.35
0.050	31.53	30.35	0.010734	0.011627	6.28	6.30	6.30	6.32	6.30	6.33
0.050	27.82	30.67	0.009373	0.010232	6.27	6.30	6.29	6.32	6.29	6.32
0.050	24.89	30.99	0.008087	0.008915	6.28	6.30	6.29	6.32	6.29	6.32
0.100	190.13	31.24	0.013171	0.014111	7.30	7.33	7.38	7.42	7.51	7.54
0.100	158.28	30.50	0.014711	0.015690	7.05	7.08	7.12	7.16	7.22	7.25
0.100	135.57	30.06	0.015597	0.016598	6.89	6.92	6.95	6.98	7.02	7.05
0.100	118.56	29.79	0.016119	0.017132	6.76	6.79	6.82	6.85	6.87	6.91
0.100	105.35	29.62	0.016399	0.017418	6.67	6.69	6.72	6.75	6.76	6.79
0.100	94.78	29.52	0.016517	0.017538	6.59	6.62	6.64	6.67	6.67	6.70
0.100	78.94	29.45	0.016434	0.017453	6.48	6.51	6.52	6.55	6.55	6.58
0.100	67.64	29.47	0.016103	0.017115	6.41	6.43	6.44	6.47	6.46	6.44
0.100	59.17	29.54	0.015630	0.016632	6.35	6.38	6.39	6.41	6.40	6.43
0.100	52.59	29.65	0.015058	0.016048	6.32	6.34	6.35	6.37	6.36	6.38
0.100	47.32	29.77	0.014409	0.015385	6.29	6.31	6.32	6.34	6.33	6.35
0.100	43.01	29.91	0.013709	0.014669	6.27	6.29	6.29	6.32	6.30	6.33
0.100	36.39	30.21	0.012204	0.013129	6.24	6.27	6.27	6.29	6.27	6.30
0.100	31.53	30.52	0.010665	0.011554	6.23	6.26	6.25	6.28	6.26	6.28
0.100	27.82	30.85	0.009189	0.010041	6.23	6.26	6.25	6.28	6.25	6.28
0.100	24.89	31.19	0.007805	0.008622	6.24	6.26	6.26	6.28	6.26	6.28
0.200	190.13	31.43	0.013977	0.014929	7.19	7.22	7.27	7.31	7.40	7.43
0.200	158.28	30.70	0.015552	0.016544	6.94	6.97	7.01	7.04	7.11	7.14
0.200	135.57	30.26	0.016416	0.017429	6.77	6.80	6.84	6.87	6.91	6.94
0.200	118.56	29.99	0.016871	0.017895	6.65	6.68	6.71	6.74	6.77	6.80
0.200	105.35	29.83	0.017054	0.018081	6.56	6.59	6.61	6.64	6.66	6.69
0.200	94.78	29.74	0.017064	0.018091	6.49	6.51	6.53	6.56	6.58	6.61
0.200	78.94	29.67	0.016780	0.017801	6.39	6.41	6.43	6.46	6.46	6.49
0.200	67.64	29.70	0.016228	0.017237	6.32	6.34	6.36	6.38	6.38	6.41
0.200	59.17	29.79	0.015538	0.016533	6.27	6.30	6.31	6.33	6.32	6.35
0.200	52.59	29.91	0.014756	0.015734	6.24	6.27	6.27	6.30	6.29	6.31
0.200	47.32	30.05	0.013915	0.014875	6.22	6.25	6.25	6.28	6.26	6.29
0.200	43.01	30.21	0.013034	0.013974	6.21	6.23	6.23	6.26	6.24	6.27
0.200	36.39	30.55	0.011214	0.012112	6.19	6.22	6.22	6.24	6.22	6.25
0.200	31.53	30.91	0.009409	0.010263	6.20	6.22	6.22	6.24	6.22	6.25
0.200	27.82	31.29	0.007714	0.008527	6.21	6.23	6.22	6.25	6.23	6.25
0.200	24.89	31.69	0.006150	0.006923	6.23	6.25	6.24	6.27	6.25	6.27
0.300	190.13	31.58	0.014542	0.015503	7.10	7.13	7.18	7.22	7.31	7.35
0.300	158.28	30.85	0.016069	0.017069	6.85	6.88	6.92	6.96	7.02	7.06
0.300	135.57	30.41	0.016838	0.017857	6.69	6.72	6.75	6.78	6.83	6.86
0.300	118.56	30.15	0.017172	0.018198	6.57	6.60	6.63	6.66	6.69	6.72
0.300	105.35	30.00	0.017222	0.018249	6.48	6.51	6.53	6.56	6.58	6.61
0.300	94.78	29.91	0.017095	0.018119	6.41	6.44	6.46	6.49	6.50	6.53
0.300	78.94	29.86	0.016512	0.017523	6.31	6.34	6.36	6.39	6.39	6.42
0.300	67.64	29.92	0.015689	0.016683	6.25	6.28	6.29	6.32	6.32	6.35
0.300	59.17	30.03	0.014745	0.015718	6.21	6.24	6.25	6.28	6.27	6.30
0.300	52.59	30.18	0.013729	0.014680	6.19	6.22	6.22	6.25	6.24	6.27
0.300	47.32	30.36	0.012673	0.013601	6.18	6.20	6.20	6.23	6.22	6.25
0.300	43.01	30.55	0.011600	0.012503	6.17	6.19	6.20	6.22	6.21	6.23
0.300	36.39	30.94	0.009564	0.010420	6.17	6.19	6.19	6.22	6.20	6.23
0.300	31.53	31.38	0.007501	0.008306	6.19	6.21	6.20	6.23	6.21	6.24
0.300	27.82	31.86	0.005601	0.006358	6.21	6.24	6.23	6.25	6.24	6.26
0.300	24.89	32.36	0.003884	0.004597	6.25	6.27	6.26	6.28	6.27	6.29
0.400	190.13	31.71	0.014945	0.015912	7.02	7.05	7.11	7.14	7.23	7.27
0.400	158.28	30.97	0.016379	0.017383	6.77	6.81	6.85	6.88	6.95	6.98
0.400	135.57	30.54	0.017020	0.018040	6.61	6.64	6.68	6.71	6.76	6.79
0.400	118.56	30.28	0.017207	0.018231	6.50	6.53	6.56	6.59	6.62	6.65
0.400	105.35	30.14	0.017102	0.018124	6.41	6.44	6.47	6.50	6.52	6.55
0.400	94.78	30.06	0.016818	0.017833	6.35	6.37	6.40	6.43	6.44	6.47
0.400	78.94	30.05	0.015925	0.016921	6.26	6.28	6.30	6.33	6.33	6.36
0.400	67.64	30.14	0.014810	0.015781	6.20	6.23	6.24	6.27	6.27	6.30
0.400	59.17	30.29	0.013596	0.014540	6.17	6.19	6.20	6.23	6.23	6.25
0.400	52.59	30.48	0.012337	0.013253	6.15	6.18	6.18	6.21	6.20	6.23
0.400	47.32	30.70	0.011061	0.011948	6.15	6.17	6.17	6.20	6.19	6.22
0.400	43.01	30.93	0.009795	0.010654	6.15	6.17	6.17	6.20	6.19	6.21
0.400	36.39	31.45	0.007331	0.008130	6.17	6.19	6.19	6.21	6.20	6.22
0.400	31.53	32.02	0.005042	0.005784	6.20	6.22	6.22	6.24	6.22	6.25
0.400	27.82	32.64	0.002993	0.003681	6.25	6.27	6.26	6.28	6.26	6.29
0.400	24.89	33.25	0.001392	0.002038	6.30	6.32	6.30	6.32	6.31	6.33
0.600	190.13	31.30	0.015424	0.016397	6.88	6.92	6.97	7.01	7.10	7.14
0.600	158.28	31.17	0.016586	0.017589	6.64	6.67	6.72	6.75	6.82	6.86
0.600	135.57	30.76	0.016896	0.017908	6.48	6.51	6.55	6.59	6.63	6.67
0.600	118.56	30.53	0.016723	0.017732	6.37	6.40	6.43	6.47	6.50	6.54
0.600	105.35	30.42	0.016275	0.017273	6.29	6.32	6.35	6.38	6.40	6.44
0.600	94.78	30.38	0.015629	0.016613	6.23	6.26	6.28	6.31	6.33	6.36
0.600	78.94	30.45	0.014047	0.014996	6.16	6.18	6.20	6.23	6.24	6.27
0.600	67.64	30.64	0.012310	0.013213	6.12	6.14	6.16	6.18	6.19	6.21
0.600	59.17	30.89	0.010549	0.011413	6.11	6.13	6.14	6.16	6.16	6.19
0.600	52.59	31.20	0.008821	0.009651	6.11	6.13	6.14	6.16	6.16	6.19
0.600	47.32	31.53	0.007154	0.007945	6.12	6.15	6.15	6.17	6.16	6.19
0.600	43.01	31.90	0.005567	0.006317	6.15	6.17	6.17	6.19	6.19	6.21
0.600	36.39	32.74	0.002659	0.003337	6.21	6.23	6.22	6.24	6.23	6.26
0.600	31.53	33.72	0.000149	0.000759	6.30	6.31	6.30	6.32	6.30	6.32

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